Information Handling Panel - Summer Meeting
Bedford Institute of Oceanography, Dartmouth, Nova Scotia. Canada
July 21st, 22nd, and 23rd, 1993.

Attendees: I.L.Gibson (Chairman), B.T.Huber, M.S.Loughridge, K.Maillard, A.Richards, W.R.Riedel, T.Saito, H.Spall, V.Spiess, G.Wadge, L.Watney, J.Coyne (TAMU Liaison), R.Merrill (TAMU Liaison), K.Moran (SMP Liaison), K.Rodway (BRG Liaison), W.W.Sager (PCOM Liaison), F.Felice (BRG visitor), E.Thomas (Visitor), S.W.Wise (Visitor), J.Saunders (Visitor), J.Gieskes (Visitor), T.Pyle (JOI)

Executive Summary and Recommendations to PCOM

(a) The minutes of the Feb.1993 IHP meeting were approved.

(b) PCOM Liason Report. W.Sager reported that the April 1993 PCOM meeting was dominated by discussion of budgetary problems. At its February meeting, IHP recommended to PCOM that the publications policy be revised in nine specific ways with the objective of (a) improving the quality of publications (b) restraining the progressively rising costs of publications and (c) facilitating the rapid distribution of ODP digital data. PCOM did not endorse ANY of the nine specific suggestions of IHP. PCOM encouraged, in general, publication of data on CD-ROM to reduce printed pages. However it did not wish to establish an across-the-board page limit for either IR or SR contributions. Instead it recommended to TAMU that they negotiate the size of volumes with Co-Chiefs. PCOM was not in favor of implementing IHP's recommendation for a 40-month submission deadline as policy and preferred to leave the 36-month post-cruise publication deadline in place. IHP expressed disappointment at PCOM's response. IHP also recommended to PCOM in February that ODP TAMU devote sufficient resources to capture, curate and organize the current incoming flow of shipboard data into a rational data-structure because, at the present time, this is NOT being achieved: the backlog of unassimilated data continues to grow. PCOM side-stepped taking a decision on this issue and referred IHP's concerns to the July 1993 meeting of the Computer RFP Evaluation Committee. IHP heard that PCOM projected SOE expenses for FY94 included $600k for upgrading the shipboard and shorebased computing/database environment. IHP noted that on the basis of earlier estimates prepared by the operator, this represented perhaps 20-25% of the projected total cost of the upgrade which would thus extend over several years.

(c) Reports from ODP TAMU. J.Coyne (Manager, Information Services) noted that work on new "data capture" modules continued but he regretted that a revised version of HARVI and HRTHIN had still not been placed on the JOIDES Resolution. A commercial paleo data capture package had been placed on the JOIDES Resolution in the middle of Leg 150. Evaluation will continue during Leg 151. Parallel development of an "in-house" Mac-based package based on 4th Dimension will continue. Concern was expressed by the panel that the shipboard Visual Core Description program is unsatisfactory in that it does not presently allow capture of small-scale structural and sedimentological information: this section-scale information is only recorded on paper forms. J.Coyne noted that a new version of the VCD program was planned. IHP noted with satisfaction some significant improvements in facilities on the JOIDES Resolution including the installation of Sun workstations, extensions to the ethernet local area network and the enhancement of the SATCOM communication system.

R.Merrill (Manager, Publications Group) outlined the changes that he had implemented at PCOM's instigation in the publication policies and procedures. The IHP consensus was that most of the changes were appropriate in helping the project limit rising publication costs while minimizing the

impact on the quality of the publications. IHP asked that consideration be given to reducing the space devoted to hard-rock thin-section descriptions by using a more condensed format. IHP also raised the issue of data tables on CD-ROM. R.Merrill commented that many ODP scientists were opposed to having their data "published" only in this format. The IHP consensus was that this was the appropriate format at the present time for long data tables. It was a cost-effective publication medium with the added advantage over micro-fiche of providing access to the data in a digital format. R.Merrill agreed to look at a further revision to the scheme for charging for plates.

R.Merrill presented the curators report, which was accepted by IHP. Discussion then turned to the directive from EXCOM to ODP to negotiate for the move of the DSDP and ODP cores presently stored at the East Coast Repository to Bremen. After discussion, it became clear that IHP was sympathetic to the efforts of EXCOM to internationalize the program but it remained opposed to moving cores and passed the following recommendation to PCOM:

IHP reiterates its original recommendation that cores not be moved from one repository to another. Should this recommendation be ignored again, then IHP recommends that cores not be moved from the ECR to Bremen without measures taken to minimize the consequences of such a move on the quality and integrity of the cores. Such measures are outlined in the attached minutes.

(d) Borehole Research Group. K.Rodway, noted that the installation of the Maxis equipment on the JOIDES Resolution on Leg 149A would provide improved functionality for the shipboard scientists interested in looking at logging results during the legs. To further help, FMS image raster conversion will be implemented on the JOIDES Resolution during Leg 150. IHP was delighted with the progress on CD-ROM publication of logging data. Results for Legs 139 and 143 are out; Legs 144, 145, and 146 will appear shortly and Leg 147 and 148 are in preparation. I.L.Gibson noted that difficulties had arisen over the inclusion of shipboard (non-logging) data on the IR/Logging CD-ROM. The Panel urged all parties to continue to work together on this issue.

(e) Report of the Paleontological Sub-Committee. Considerable progress was made in defining the detailed structure and content of an ODP Paleo data-structure and IHP hoped that the results would be incorporated in future versions of the paleo data acquisition program. W.Wise presented an impressive demonstration of progress to date in the development of a graphics-oriented, PC-based tool to aid ODP shipboard scientists in the identification of Nannofossils. This work continues. J.Saunders presented a report of the meeting of the curators of the MRCs, held in Basel, Switzerland, earlier this Summer. The meeting, the first of its kind, was very successful and steps were taken to further broaden the distribution of curated material. T.Saito indicated to IHP that Japan had kindly offered to deal with the preparation of both the ODP Radiolaria and the Diatoms for the MRCs.

(f) SMP Liason Report. K.Moran led a discussion leading IHP to adopt the following ranking for the development of new and improved data-acquisition modules for the JOIDES Resolution as a panel consensus:

(a) Micropaleo
(b) Visual Core Description (Soft rocks)
(c) Discrete Physical Properties
(d) Natural Gamma and Core-log integration
(e) Paleomagnetics
(f) HARVI/HRTHIN

(g) MST
(h) SAM
(i) Chemistry
(j) Underway geophysics.

It was noted that the order of the items on this list did not differ greatly from that developed by SMP and the two panels will continue to work together on this prioritization.

(g) Nominations for a new Chair of IHP. IHP agreed to nominate P.Fryer as the new Chair of IHP. (PCOM later accepted this nomination and it is understood that P.Fryer has agreed to serve.)

Minutes

1. Meeting arrangements and changes to the agenda.

I.Gibson, when welcoming panel members, liaisons, and guests, thanked K.Moran for making arrangements for the meeting, a tour of the AGC core repository on Thursday afternoon, and a formal dinner Thursday evening. It was agreed to add an agenda item dealing with SMP/IHP concerns arising from the joint meeting in College Station in February 1993. W.Sager kindly agreed to take the chair for the IHP meeting on Friday morning to discuss agenda items 10-13, including the nomination of a new IHP chairman. There were no further additions to the agenda but it was noted that the present status of the Computer Upgrade RFP would be considered under agenda item (5a); repercussions to cost-cutting measures adopted by the operator in relation to Publications would be dealt with under Agenda item (5b); the Bremen core repository would be discussed under Agenda item (5c); the distribution of ODP shipboard and Logging data on CD-ROM would be considered with the BRG Report (Agenda item 6).

2. Approval of the minutes of the February 1993 IHP meeting and matters arising from the minutes.

The minutes of the Feb.1993 IHP meeting were approved.

Under matters arising, I.Gibson commented that the minutes were prepared and distributed while he was on Leg 149 and were less detailed than usual. A.Richards noted that IHP would benefit from a designated "secretary" to take minutes. I.Gibson noted that this was only a problem every other meeting when IHP did not meet at College Station. W.Sager kindly agreed to take notes at the present meeting and the chairman expressed his appreciation of this help.

W.Riedel asked how effective were the IHP "Instructions to shipboard stratigraphers". The Chairman agreed to ask J.Baldauf if these instructions were being routinely distributed prior to Legs, and what, if any action was being taken by Chief Scientists in this matter. J.Saunders noted that this was a particular problem on multi-faceted legs with non-stratigrapher Co-chiefs. ACTION ILG

3. Review of recommendations to PCOM listed in the Feb.1993 minutes.

The action of PCOM in relation to the recommendations was considered with the PCOM Report from W.Sager (Agenda item 4)

4. PCOM Report

W.Sager reported that PCOM met most recently at the Lamont-Doherty Geological Observatory from April 26-28th, 1993. The meeting was dominated by discussion of budgetary problems besetting the project following the withdrawal of Russia to inactive status and the failure of the Canada to renew the CanAus consortium membership agreement on its original basis. In discussion, T. Pyle noted that now (in July) the budget situation seemed somewhat easier and that planning for the 1993-93 financial year was proceeding on the basis that funds would be available to operate with a $44.9M budget.

At its February meeting, IHP suggested that the publications policy be revised in nine specific ways with the objective of (a) improving the quality of publications (b) restraining the progressively rising costs of publications and (c) facilitating the rapid distribution of ODP digital data. PCOM did not endorse ANY of the nine specific suggestions of IHP. PCOM encouraged, in general, publication of data on CD-ROM to reduce printed pages. However it did not wish to establish an across-the-board page limit for either IR or SR contributions. Instead it recommended to TAMU that they negotiate the size of volumes with Co-Chiefs. PCOM was not in favor of implementing IHP's recommendation for a 40-month submission deadline as policy and preferred to leave the 36-month post-cruise publication deadline in place. IHP expressed disappointment at PCOM's response and noted that subsequent to the April PCOM meeting, the operator had significantly modified the publication guidelines and that these changes had generated some disquiet among the scientific community. These changes are outlined in Appendix B to the minutes in the ODP TAMU Publications Report.

IHP recommended to PCOM in February that ODP TAMU devote sufficient resources to capture, curate and organize the current incoming flow of shipboard data into a rational data-structure because, at the present time, this is NOT being achieved: the backlog of unassimilated data continues to grow. PCOM side-stepped this issue by referring IHP's concerns to the July 1993 meeting of the Computer RFP Evaluation Committee.

PCOM projected SOE expenses for FY94 included $600k for upgrading the shipboard and shorebased computing/database environment. IHP noted that on the basis of earlier estimates prepared by the operator, this represented perhaps 20-25% of the projected total cost of the upgrade which would thus clearly extend over several years.

(The PCOM report for this meeting is published in full in the JOIDES Journal, v.19, no.2, p.2-4)

5. Reports from ODP TAMU

(a) Information Services. John Coyne presented the report from the Information Services Group (Appendix A), which had been circulated to IHP members prior to the meeting.

It was noted that there were signs of the number of data requests leveling off, perhaps in response to the availability of some ODP data on the NGDC ODP CD-ROM. It was also noted that some of the descriptive data types, for example hard-rock description, thin section description, sediment description, smear slide data, were seldom requested (6 requests in total during the period Jan-June, 1993). G.Wadge commented that it was important in any re-design of the database/computing environment to take into consideration what digital information was actually required and used by the scientific community. John Coyne commented that Table 2 (Database status) of Appendix A presently contains no information on ODP Paleontology data and ODP XRD data. However, a start had been made in entering the 50-leg backlog of paleontology data from the scientific results volume.

Recent changes in the hardware on board the JOIDES Resolution would also allow better treatment of XRD data

Application Group work on new "data capture" modules was discussed at length. J.Coyne regretted that a revised version of HARVI and HRTHIN had still not been placed on the JOIDES Resolution for the use of Scientists. Leg 152 was the next "hard-rock" Leg and J.Coyne noted that the revised package should be available at that time. IHP noted that the BugWare software package had been placed on the JOIDES Resolution for the possible use of the shipboard paleontologists. Unfortunately the software only reached the ship at the end of the 10-day transit from Lisbon in the middle of Leg 150, giving the shipboard party little time to learn and evaluate the package prior to the arrival of core on deck! Evaluation will continue during Leg 151. Parallel development of an "in-house" Mac-based package based on 4th Dimension will continue. It was noted that D.Lazarus had scientific and computing expertise with this particular application.

K.Moran and M.Loughridge noted with concern that the Boyce Correction had not yet been integrated into the acquisition of GRAPE data which was thus systematically in error. John Coyne was also unable to quantify which data from earlier legs was subject to this error and the matter remains the topic of active investigation.

Concern was expressed by the panel that the VCD program does not capture small-scale structural and sedimentological information in its present form: this section-scale information is only recorded on paper forms. I.Gibson noted that this was a significant problem on Leg-149 as raw data on significant turbidite small-scale cyclicity in the sedimentary sections will not be recorded in the published record, or in the ODP sedimentary description database. J.Coyne noted that a new version of the VCD program was planned. K.Moran stated that SMP considered that priority should be given in any revised version to capturing data needed by the scientists, and that the preparation of the art-work for publication (the main output from the present VCD program) should be a secondary consideration.

MST Susceptibility data captured on the JOIDES Resolution is calculated on the assumption that the core fills the core-liner. I.Gibson noted that on Leg 149 hard-rock cores, passed through the MST prior to splitting and curation, had significantly reduced diameters and that the resulting error in the susceptibility results often exceed 50%. IHP noted that this erroneous data presently enters the ODP archive in the normal way, notwithstanding suggestions from SMP that fragmentary hard-rock cores NOT be passed through the MST. John Coyne commented that it was the responsibility of users of ODP data to familiarize themselves with the limitations of that particular data set. Caveat emptor.

IHP noted with satisfaction the various improvements outlined in Appendix A under "Computer Operations (Ship)". The additional ethernet connections worked well during Leg 149 and the enhancement to the SATCOM communication system, put in place during the Lisbon port call, appeared to be working well on Leg 150 at the time of the IHP meeting.

IHP also noted that several staff vacancies in Information Services had recently been filled. The improved staffing position should help in coping with the seemingly ever-increasing flow of data from the JOIDES Resolution.

J.Coyne provided an update on the status of the Computer-upgrade RFP. It was noted that three contractors had been invited to submit detailed proposals and that these would be evaluated by a specially convened committee in late July. I.Gibson would represent IHP at this meeting. In all cases the projected costs were significantly greater than anticipated and J.Coyne made it clear that the operator might only be ably to sub-contract out part of the upgrade, with the remaining work being

completed "in-house". It was anticipated that the contract would not be let before the end of 1993. K.Moran commented that SMP considered that new data-acquisition modules should have first priority, and it was agreed that IHP and SMP should work together to set these priorities. This matter was discussed further under Agenda item 8b.

(b) Publications

R.Merrill, in presenting the report of the publications group (Appendix B), noted that for a variety of reasons, only eight Proceedings volumes will be published in 1993 but that 1994 would be a busy year clearing the small accumulated back-log. IHP noted that in general the publications continue to be produced in a timely and effective manner.

Low-resolution digital versions of 40,000+ 4"x5" color core photographs (24 bit color) have been obtained at a cost to the project of $7k. This information may be made available to the community in the form of a CD-ROM. IHP welcomed this news but noted that the relatively low resolution of these digital images would limit their utility.

A defect in the software distributed with the DSDP cumulative index CD-ROM had led to the decision to generate a corrected version. NGDC and NSF are to split the cost of the generation and distribution of the corrected CD-ROM.

R.Merrill outlined the changes that he had implemented at PCOM's instigation in the publication policies and procedures (Appendix B, p.2). The IHP consensus was that most of the changes were appropriate in helping the project limit rising publication costs while minimizing the impact on the quality of the publications. In discussion, IHP agreed with comments made in a letter from J.Natland that serious consideration should be given to reducing the space devoted to hard-rock thin-section descriptions by using a more condensed format that made better use of the printed page. R.Merrill agreed to look into this matter.

J.Natland also raised the issue in his letter of data tables on CD-ROM. R.Merrill commented that many ODP scientists were opposed to having their data "published" only in this format. The IHP consensus was that this was the appropriate format at the present time for long data tables. It was a cost-effective publication medium with the added advantage over micro-fiche of providing access to the data in a digital format. If authors insisted that their long data tables appear in a printed format, they should be asked to pay appropriate page charges.

After discussion of the issue of plates in the SR volume, IHP suggested that the following might be an appropriate policy and charging structure: (a) Five free "simple" plates would be allowed per paper. (b) If authors insisted on the use of "complex" plates, they would be asked to pay the incremental cost for plates 1-5 ($75 each). (c) Authors requiring additional plates beyond five would be asked to pay the costs. R.Merrill agreed to look at this proposal.

(c) Curators report and discussion of the future of the Atlantic Repository.

R.Merrill presented the curators report (Appendix C), which was accepted by IHP. Discussion then turned to the directive from EXCOM to ODP to negotiate for the move of the DSDP and ODP cores presently stored at the East Coast Repository to Bremen. The Panel noted that this decision was taken in an effort to "internationalize" the program. Bremen had offered to take on the task of acting as the Atlantic Repository for new cores, and had offered to move the existing cores at their expense, to keep the Atlantic collections together. It was noted that B.Lewis, P.Rabinowitz, and others would

visit Bremen shortly to see the proposed facility. IHP noted that this issue was of particular concern to the American scientific community and several letters had been received on this issue, including long statements from N.Posias and J.Fox, opposing the movement of cores.

After discussion, it became clear that the view of IHP had not changed. It was sympathetic to the efforts of EXCOM to internationalize the program and the partitioning of the Atlantic collection between the U.S. and Germany might be a necessary cost of these efforts. However, IHP remained opposed to moving cores as there would certainly be some damage during transport. A.Richards helped draft a formal recommendation to PCOM on this issue and this was approved by the panel. This recommendation is included at the front of these minutes.

In reaching this consensus, IHP was aware of recent experiences in moving piston core collections from the University of Washington to Oregon State University and another collection within the Bedford Institute of Oceanography (BIO) in Dartmouth, Nova Scotia. The experience was that some core disturbance will occur even when cores are carefully handled and transported. The experience and expertise gained, the lessons learned, and the procedures developed during these moves should be considered and evaluated in considering whether to move cores away from the ECR. For example, prior to moving their cores, BIO re-curated their entire shipment to ensure stratigraphic integrity and to minimize damage during the move.

IHP strongly urges re-curation of the ECR collection PRIOR to shipment in order to mitigate damage to the drill core collections. The need to re-curate the ECR collection in its present state has long been recognized and urged by IHP. This need is now paramount in view of the move being considered. Re-curation consists of the re-assembly of disturbed core components (sediments, rocks, and fragments thereof) into their original stratigraphic configuration through the use of core photographs and lithologic logs, and the stabilization of these components within their core liners with styrofoam plugs, spacers, liner partitions, liner extensions, foam caps, shrink wrap, etc., in such a way as to prevent movement of components during handling. Where necessary, drying of the material can be retarded by re-moistening the sponges in the D-tubes.

Based on previous experience with drill and piston cores, examples of the types of damage that can be expected to occur in a move from the ECR to Bremen, particularly if not preceded by re-curation, include:

(a) Movement and juxtaposition of sediments or rocks within the core liners with consequent loss of stratigraphic continuity. Heavily sampled older cores and those with shales or clays that have expanded beyond the confines of their core liners are especially vulnerable to this type of damage.

(b) Destabilization and movement of fragile, unconsolidated or poorly consolidated clastic sediments due to vibration, particularly during truck transport.

(c) Destruction of sedimentary structures and trace fossils in clastic lithologies due to jostling, jarring, and vibration during transport. Older cores are especially susceptible to damage, particularly those that are desiccated and weakened by shrinkage cracks.

IHP also noted that experience in core transport at BIO indicates the need for well-trained and experienced personnel to handle cores during packing, which must be carried out in a deliberate and methodical manner. This process is likely to be more time

consuming and expensive than presently appreciated. The time during which ECR cores might be unavailable for sampling could be considerable.

6. Borehole Research Group Reports

K.Rodway, in presenting the report on computing activities since the last IHP meeting (Appendix D) noted that the installation of the Maxis equipment on the JOIDES Resolution on Leg 149A was a particularly significant development. The unit would provide improved functionality for the shipboard scientists interested in looking at logging results during the legs. To further help with shipboard processing of logging data, a SUN IPX has been installed in the DHML. During Leg 150 FMS image raster conversion will be implemented on the JOIDES Resolution. This will give shipboard scientists quicker access to FMS images.

IHP also received the report of the BRG Database Group (Appendix E) and noted that data requests to the Group reached a record in 1992 but had since declined. This was not considered to be the result of publication of data on CD-ROMs but was due to a slight decrease in acquisition of logging measurements. IHP was delighted with the progress on CD-ROM publication of logging data. Results for Legs 139 and 143 are out; Legs 144, 145, and 146 will appear shortly and Leg 147 and 148 are in preparation. The panel noted that NGDC had been helping with this work and expressed their appreciation of this assistance. The purchase of additional equipment by the BRG in FY 94 will shortly allow all the work to be completed at Lamont.

F.Felice then explained how the CD-ROMs were prepared and the arrangement of the information (See Appendix E, p.5). At the present time 2000 copies of each CD-ROM were prepared. 1920 copies were distributed with the appropriate IR volume, 80 were retained by the BRG.

I.L.Gibson then noted that difficulties had arisen over the inclusion of shipboard (non-logging) data on the IR/Logging CD-ROM. It had been agreed at the last IHP meeting (Feb.1992) that such information might be included on a space available basis. The matter appeared to be a dispute between the ODP TAMU and the BRG, and thus not within the jurisdiction of the panel. However, IHP was concerned about the issue as it wished to see both digital shipboard and logging data from each leg distributed in a timely fashion. F.Felice stressed that their main concern was for the quality, usefulness, and structure of the CD-ROM. BRG were anxious to incorporate shipboard data on a space-available basis, but the CD-ROM was in a real sense a "publication" and as such had to be quality product: it should not be viewed as a "catch-all" for overflow from the printed IR volume. R.Merrill noted that at present it required approximately 65 pages of printed material to be removed from the IR volume to justify the expense of generating a separate TAMU IR CD-ROM containing just shipboard data. The Panel, while sympathizing with the BRG view, urged both parties to continue to work together on this issue. The mandated cuts in the publication budget necessitated that some information be written on the CD-ROM, even if this meant partitioning the CD-ROM into a TAMU and BRG directory structure. A more useful arrangement, favored by IHP, involved data from both sources being written on the CD-ROM following a uniform and well-structured format.

7. Report of the Paleontological Sub-Committee Meeting of Monday 20th July

(a) Paleontological data acquisition on the JOIDES Resolution This matter was considered by IHP under Agenda item 5a (Information Services Report).

(b) The ODP Paleontological database. Considerable progress was made by the Sub-Committee under the leadership of W.Riedel and in collaboration with John Coyne. in defining the detailed

structure and content of an ODP Paleo data-structure. The group were encouraged by this progress and hoped that the results would be incorporated in future versions of the paleo data acquisition program. It was emphasized again that the form of the data structure must NOT impact negatively on the scientist and the paleo data acquisition process.

(c) Micro-paleontological CD-ROM - Progress Report. W.Wise presented a brief demonstration of progress to date in the development of a graphics-oriented, PC-based tool to aid ODP shipboard scientists in the identification of Nannofossils. IHP was much impressed with progress in this project which is being funded as a small sub-contract from ODP TAMU. It should be possible to write the complete image library and the associated software on a CD-ROM and a preliminary version might be available to the panel at the next IHP meeting (March? 1994). It should also be possible to adopt the same procedure with other micro-paleo fossil groups. W.Riedel and A.Sanfilippo have comparable work in hand on Radiolaria. B.Huber expressed an interest in working with scientists at the Natural History Museum in London on Foraminifera, utilizing an existing library of high-resolution photographs.

(d) Micro-paleo Reference Centers. J.Saunders presented a report (Appendix F) of the meeting of the curators of the MRCs, held in Basel, Switzerland, earlier this Summer. The meeting, the first of its kind, was very successful. The discussion emphasized that each of the active centers specialized in a different micro-fossil group and they thus complemented each other well. The Curators asked IHP to consider the possibility that certain fossil groups be sent by an MRC to another institution as a carefully controlled "sub-loan" in cases where that institution has a demonstrated expertise and interest in that particular fossil group. The intention here is to make the best use of the material. Experience has shown that collections need to be linked closely to an individual at an institution with a particular interest. Such an individual forms a natural focus for visiting user scientists. In discussion, IHP accepted this suggestion, assuming that such sub-loans would be made in a careful and conservative manner.

T.Saito indicated that Japan had offered to deal with the preparation of both the ODP Radiolaria and the Diatoms for the MRCs (Preparation of the DSDP Radiolaria had been undertaken at the Scripps Institution of Oceanography as an NSF-funded activity). IHP were delighted with this news and expressed their appreciation of this gesture by ODP Japan.

(e) The status of the micro-paleo sub-committee. W.Riedel stated that the paleo-subcommittee needs to be formalized. It clearly plays a useful role in bringing together representatives from several panels (presently IHP, SMP, and OHP) and might usefully help the operator with advice on paleo-staffing. IHP also noted that the MRC Curators, meeting this Summer, had also suggested that the sub-committee needed a more formal structure. Sager commented that a clearly worded proposal to PCOM was required. Subsequently, I.Gibson agreed to discuss this matter with B.Lewis (Chair PCOM) to investigate what type of proposal was most appropriate.

(f) J.Saunders reported that he had been informed that Lazarus and Thierstein were developing a database using 4th Dimension software for the Macintosh of micro-paleo/stratigraphic data. This presently had information for 100 DSDP and ODP sites derived from the published Proceedings Volumes, together with updated taxonomy and chronology. Lazarus and Thierstein have proposed establishing a Micropaleontology Database Center to make database available to the community. IHP welcomed this news. Developments of this type are urgently needed and sadly reflect the absence of any comparable ODP data structure within the Ocean Drilling Program. Copies of a document from Lazarus and Thierstein describing the proposed Micropalaeontology Database Center were distributed

to Huber and Coyne. It was noted that the formal mandate of IHP prevented the panel from formally endorsing this development.

8. SMP Liason Report.

(a) The policy for the preservation and storage of the Archive Half (AH). K.Moran opened the discussion and asked IHP to consider if it were possible and desirable to save less than half the core - perhaps a thin archive slice or slab. Such a slab would be better for X-ray analysis. W.Riedel commented that IHP had a duty to adopt a conservative policy for the possible benefit of future scientists. It was impossible to predict what type of measurements might be made on the archive material in the future and he favored no change in the present policy to allow the greatest degree of flexibility. R.Merrill stated that approximately 30% of visiting scientists at the Gulf Coast Repository examine the AH to choose sampling locations, examine undisturbed stratigraphy, and to make primary measurements on the core. Sager mentioned that for the first year 75% of the core was preserved because of the present policy relating to sampling the working half. R.Merrill noted that after the first year the whole working half was available for sampling. The IHP consensus was that the present policy should be retained. A half-round is the only type of sub-sample of the core that can be readily prepared at a minimum cost. Information relating to the AH policy should be made more widely available, perhaps via the shipboard scientist information packages and the JOIDES Journal. R.Merrill was asked to continue to record AH usage.

(b) Prioritization of Data-acquisition Developments. K.Moran stated that SMP had recently ranked in importance the development of new data-acquisition modules for the JOIDES Resolution to provide some guidance for ODP TAMU. After discussion the following ranking was adopted as a panel consensus.

(a) Micropaleo
(b) Visual Core Description (Soft rocks)
(c) Discrete Physical Properties
(d) Natural Gamma and Core-log integration
(e) Paleomagnetics
(f) HARVI/HRTHIN
(g) MST
(h) SAM
(i) Chemistry
(j) Underway geophysics.

It was noted that the order of the items on this list did not differ greatly from that developed by SMP and that the two panels should continue to work together on this prioritization.

9. Data Handling on Leg 149

I.Gibson stated that he had sailed as one of the shipboard petrologists on Leg 149, perhaps the most successful of the recent basement legs. At the conclusion of the Leg, after a period of reflection, he had submitted to the operator some detailed suggestions which would, in his opinion, further improve and simplify data handling on the JOIDES Resolution. These comments were circulated to the Panel. J.Allen and J.Coyne had gone to considerable trouble to prepare a detailed response to these comments indicating, for a variety of reasons, that ODP TAMU preferred in general to continue with the status-quo rather than adopt some of the radical proposals suggested. In particular, ODP-TAMU did not wish to restrict the range of computing hardware on the JOIDES Resolution, although this would ease support and maintenance problems. The scientific users required this complex variety of

equipment and that was the paramount consideration. The panel and the SMP liaisons present wholeheartedly supported this view.

The MST was modified on Leg 149 to allow natural gamma measurements on core samples. Although further development is required, it was possible to undertake simple experiments to assess the potential of the device. These experiments indicated that to acquire high quality natural gamma data on a cm-scale basis, comparable to the magnetic susceptibility results, the core would have to be passed through the MST at a slow rate that significantly impeded core flow through the laboratory. However, it might be possible to make measurements at say 30cm intervals, somewhat comparable to the resolution of the down-hole natural-gamma tool. Such results might aid core/log integration as envisaged by both SMP and IHP. Further detailed evaluation of this equipment was urgently required.

10. The role of IHP.

W.Sager (in the absence of the Chair) led a discussion on the mandate and effectiveness of IHP. Most considered that the present, rather narrow mandate of IHP as an advisory body to PCOM, was satisfactory. However it was noted that most information handling issues that impact on the ODP community do not fall directly within the purview of the panel: they are the responsibility of the ODP-TAMU operator. After further discussion it became clear that some members of the panel were to a degree frustrated with the filtering of IHP recommendations through PCOM. However most recognized that PCOM was not antagonistic to IHP recommendations, but that the main problem is a chronic underfunding of the program which leads to recommendations being ignored through lack of funds.

11. Nominations for a new Chair of IHP.

IHP agreed to nominate P.Fryer as the new Chair of IHP. It was hoped that the new Chair would attend the annual PanChair meeting in Florida in December (PCOM later accepted this nomination and it is understood that P.Fryer has agreed to serve. I.Gibson, absent from this nomination session, indicated later that he would try to attend at least one more IHP meeting as the CanAus representative, and that he would do all in his power to assist the new Chair in the interim.)

12. IHP membership and nomination of `recent Co-chiefs'.

In discussing IHP membership, the question arose as to whether some US members served on a rotational basis, like their foreign counterparts. There was some uncertainty on this point. In discussion of the appointment of recent Co-chiefs, it was noted that former Co-Chiefs and panel members P.Fryer and W.Wise had rotated off but that Co-Chiefs W.Sager (Leg 143) and R.Wilkens (Leg 136) were members or liaisons. Nevertheless there was a consensus among IHP members that it was particularly useful to have recent Co-Chiefs on IHP and after discussion the panel agreed to ask PCOM to invite D.Rea (Leg 145) and J.Thiede (Leg 151) to serve on the panel.

13. Date and time of the next two IHP Meetings.

It was agreed that the next IHP meeting would be in March, 1994 at College Station and that the subsequent September meeting would be in Bremen if a Core Repository was established at this site.

Information Services Group Report to the Information Handling Panel

February 1993 - June 1993

Data Base Group

I. Data Requests

The Data Librarian responded to a total of 1,875 requests for individual DSDP and ODP datasets since May 1985. From January 1, 1993 to June 30, 1993 a total of 160 requests were processed. The variation in the number of requests with time is shown in Figure 1, The increase in total requests filled over the last reporting period reflects the continuous presence of a Data Librarian during the past six months. The 1993 data include requests received up to June 30. The number of requests by type of data is shown in Table 1.

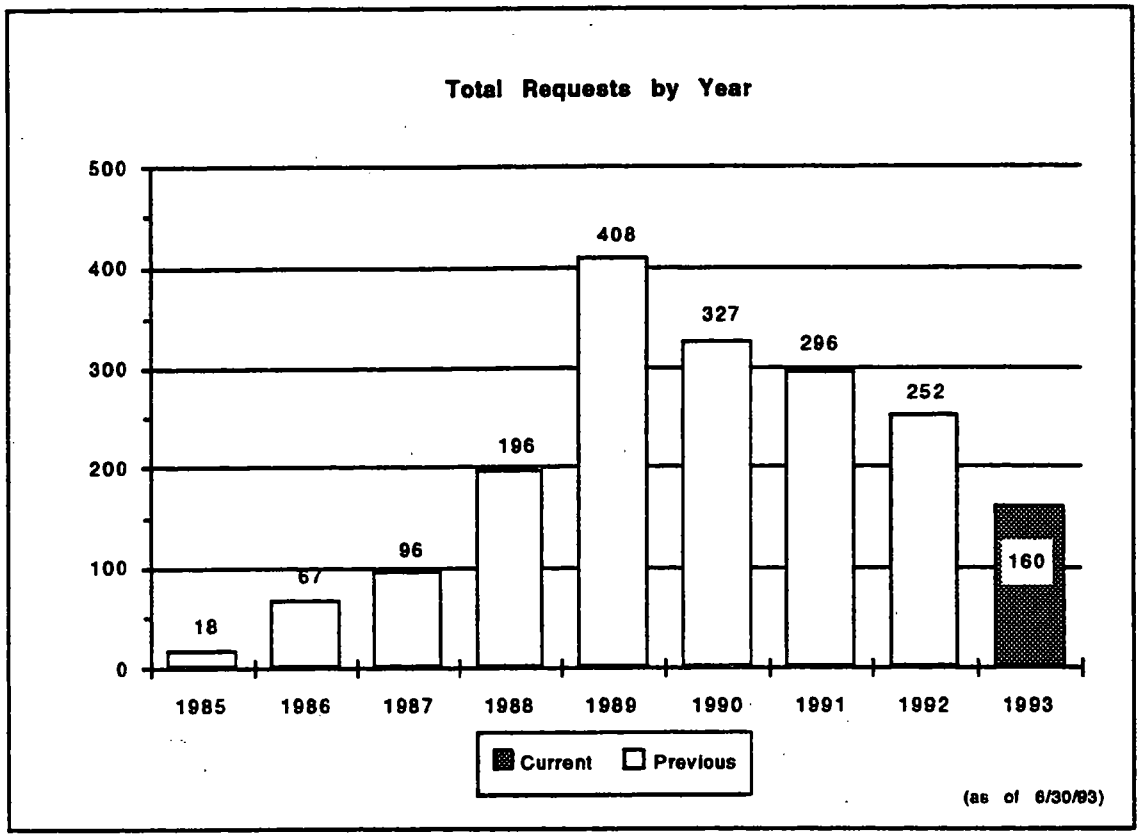


Figure 1: Total Data Requests by Year

II. DATABASE GROUP ACTIVITIES

Database Status

The current status of s1032 datasets is presented in Table 2. The data types which are not amenable to storage in s1032 are shown by the light stipple pattern, s1032 datasets by the

Data Type	Public		In-house		Subtotal		TOTAL
	Previous	Current	Previous	Current	Previous	Current	
Photo	440	49	16	7	456	56	512
Photo	440	49	16	7	456	56	512
Legs, Site, Hole	117	7	77	6	194	13	207
Physical Properties	115	16	30	1	145	17	162
Chemistry	72	7	35	1	107	8	115
Sediment Description	91	1	8	0	99	1	100
Underway Geophysics	70	5	10	3	80	8	88
88 Core Log	34	0	51	2	85	2	87
Paleontology	65	1	7	0	72	1	73
Smear Slide	40	1	27	0	67	1	68
Paleomagnetics	53	1	6	0	59	1	60
Sample Record	23	0	17	8	40	8	48
Ig/Met Description	26	2	7	2	33	4	37
XRF	39	12	4	0	43	12	55
Ig/MetThin Section	14	2	0	1	14	3	17
Sample Request	8	0	1	0	9	0	9
Bibliography	7	0	1	0	8	0	8
Other†	167	8	37	17	204	25	229
TOTAL	**1381**	**112**	**334**	**48**	**1715**	**160**	**1875**

TABLE 1: Number of Data Requests by type

† This category includes maps, technical notes, well logging journals and downhole tools data requests as well as any requests not covered in the above categories.

Previous= from May 1985 to Dec. 31 1992
Current = Jan. 1993 to June 30, 1993

ND No Data Collected
Data in s1032
Data not in s1032 in various formats

Data collected 6/30/93

	CORE LOG	LEG DATA	SITE DATA	HOLE DATA	SED LITH	SLIDES	HARVI Coarse	HARVI Fine	HR THIN	XRF	GRAPE	THERM CON	PWAVE	VELO CITY	INDEX	GRAPE2	Strength	REVAL	CACO3 CARBON	IW	GECE	Magnetics	Underway Geophysics	ACE PROFILE	
100	ND				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100
101							ND	ND	ND	ND	ND		ND									ND			101
102	ND				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND		ND	102
103								ND					ND								ND	ND			103
104							ND						ND												104
105							ND						ND												105
106					ND	ND	ND						ND				ND	ND	ND	ND	ND			ND	106
107							ND						ND			ND		ND							107
108							ND	ND	ND	ND						ND						ND			108
109					ND	ND							ND				ND	ND	ND	ND	ND	ND		ND	109
110							ND	ND	ND	ND			ND			ND						ND			110
111							ND						ND								ND				111
112							ND	ND					ND			ND						ND			112
113							ND															ND			113
114							ND									ND		ND							114
115							ND											ND							115
116							ND	ND	ND							ND									116
117							ND	ND	ND																117
118													ND			ND	ND	ND	ND	ND	ND				118
119							ND																		119
120							ND									ND									120
121							ND									ND		ND							121
122							ND	ND	ND	ND						ND									122
123							ND									ND									123
124							ND									ND									124
125																									125
126							ND											ND							126
127							ND				ND						ND								127
128							ND				ND														128
129							ND			ND								ND							129
130							ND							ND	ND	ND	ND								130
131							ND			ND						ND		ND							131
132							ND									ND		ND							132
133							ND	ND	ND	ND						ND		ND							133
134																		ND							134
135							ND							ND	ND										135
136							ND											ND	ND						136
137							ND										ND	ND	ND	ND	ND			ND	137
138							ND	ND	ND									ND							138
139																									139
140																								ND	140
141							ND																		141
142						ND	ND							ND	ND	ND	ND							ND	142
143							ND																		143
144							ND																		144
145							ND																		145
146							ND																		146
147																									147
148							ND																		148
149																									149

Table 2: Database Status

darker diagonal lines. The blank areas represent data whose status is undetermined at this time. The data, if collected, are present on archive WORM disks. A catalog of these disks is being compiled.

Paleontology Data

The backlog of paleontology data is being entered into Excel spreadsheets from the Scientific Results volumes. Excel is being used until the issue of the paleontology data entry program is resolved and the database structure completed. At that time the data will be loaded into the database.

This work is being done by student workers under the direction of a paleontology graduate student. It is anticipated that 20-25% of the backlog will be entered by the end of the summer.

XRF/XRD Data

The return of a DEC PDP 11 from the ship to ODP/TAMU will allow us to read and convert the data after leg 132. These data are currently stored on diskette and paper printouts.

Physical Properties Data

All PhysProps spreadsheets generated since Leg 130 are being retrieved from the WORMs for local storage and easy accessibility. Data collected prior to Leg 130 was entered directly into S1032. In addition, Index Properties and Beaker data are being extracted from the spreadsheets and loaded into the S1032 database. Definitions for the Strength and Velocity datasets will need to be modified before spreadsheet data can be loaded to them.

Data migration for legs 139 through 149 have been completed with the following exceptions: Leg 143 data was saved in a non-Excel format (probably Kaleidagraph) and has not yet been converted.

CORELOG Editing

Table 3 is a progress chart showing the activity to date and the remaining work on editing the CORELOG dataset to validate the core identifiers. The area in black denotes progress since January 1 1993. We have reached a steady-state with the data from new legs but still must complete edits on some of the earlier legs. This project is on target to allow the migration of the ODP data into a new data structure.

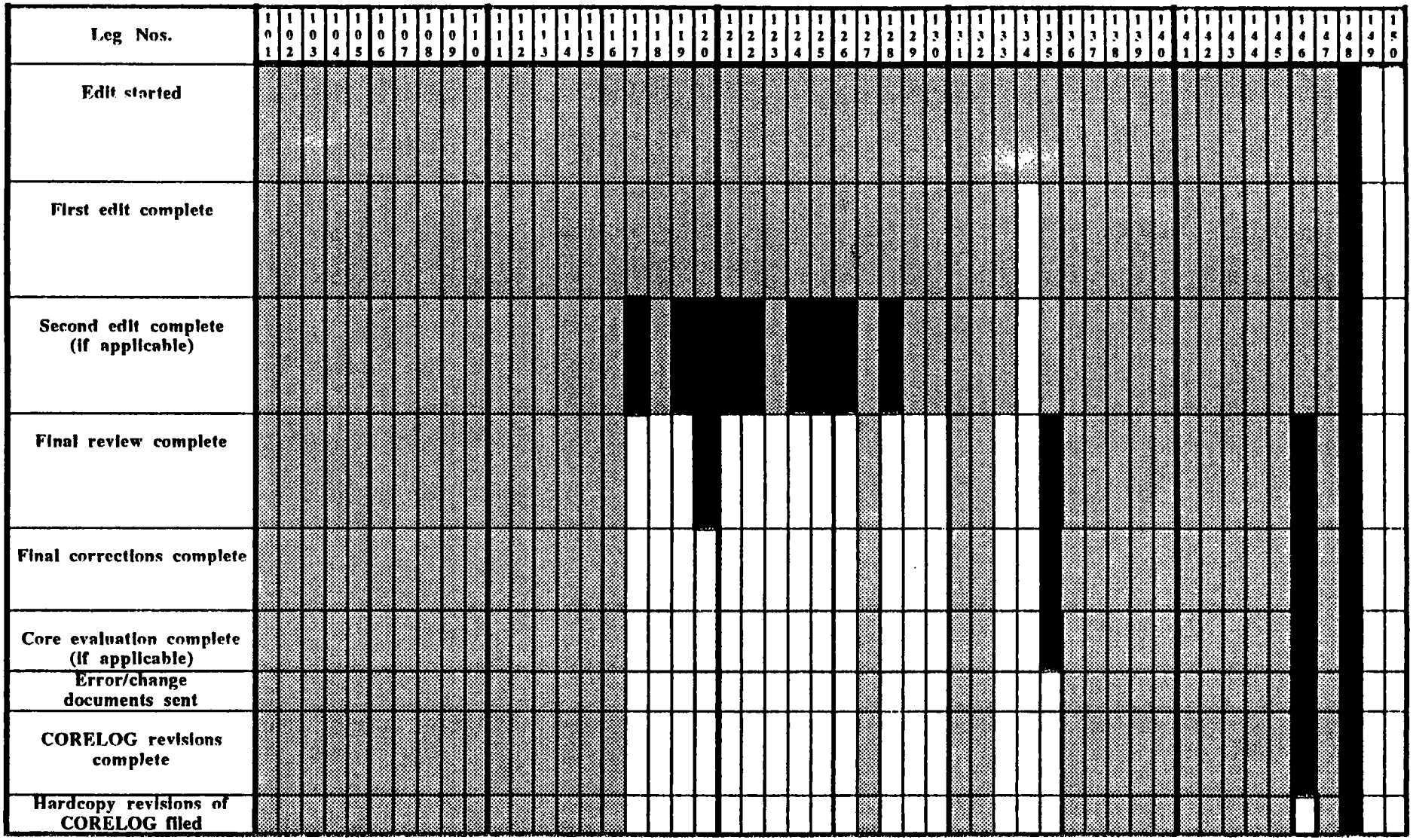


Table 3. Status of CORELOG Editing

AGEPROFILE

Work continues on updating this dataset for legs 145 through 149.

APPLICATIONS GROUP

Paleontology Programs

The BugWare software package continues to be evaluated on Leg 150. Mitch Covington has agreed to submit a proposal to modify BugWare for use by ODP. A similar proposal will be obtained from a 4th Dimension consultant. These proposals will be evaluated in terms of timelines and dollars to complete the project. In the meantime BugWare is on the Resolution and efforts to convert leg 149 BugWare data to conform with the ODP fossil dictionary and sample ID are underway.

PHYSPROPS (INDEX)

Prototype development of the INDEX portion of the PHYSPROPS data collection system has begun using the client/server configuration of 4th Dimension/4D Server. This prototype is being tested on Leg 150.

GRAPE DATA

Programming of the so-called Boyce Correction to the GRAPE data is underway. The question of applying this correction to existing data is still under discussion.

COMPUTER OPERATION(Ship)

The underway geophysics, downhole logging, and Co-Chief office areas were connected to the Ethernet network during Leg 149.

Progress towards retiring the VAX 11/750s from the ship environment continues.

A SUN Sparc2 was placed on the ship on Leg 149. Support for this system will be minimal until the Shipboard System Managers can be trained in the use of the UNIX operating system. General Mapping Tool (GMT) was installed on Leg 149.

Tested the software package AGCNAV which plots navigation data on PC.

The Natural Gamma instrument was added to the MST on Leg 149. Data collection and control software is still under development fo r this system.

NETWORK SERVICES AND NEW TECHNOLOGY GROUP

The SATCOM communication system was upgraded during the Lisbon port call before Leg 150. This upgrade allows greatly increased speed of communication with the ship.

An Oracle client server system is under investigation.

PERSONNEL

	Feb.	Mar.	Apr.	May	June	July
Manager	←		John Coyne			→
Data Administrator			Rakesh Mithal			→
Database Admin.			TBA			
Data Librarian	←		Joan Perry			→
Advisory Sys Analyst	←		Jack Foster			→
Systems Analyst	←		Lisa Patton			→
Systems Analyst	←		John Olsen			→
Programmer Analyst			Tasneem Gandapur			
Shore System Manager			Bryan Ignatow		→	
Senior Systems/Network Manager	←		Moses Sun			→
Help Desk & User Education Coordinator			Nicole Irizarry			→
IS Assistant			Laura Young			
Ship System Manager	←		Edwin Garrett			→
	←		John Eastlund			→
	←		Mat Mefferd			→
	←		Barry Weber			→
	←		Cesar Flores			→
	←		Joel Huddleston			→

Summary of ODP Publications Activities, February–June 1993

(Prepared by W.D. Rose for July 1993 IHP Meeting)

1. Proceedings volumes: We continued preparation and publication of ODP *Proceedings* volumes as follows (see ATTACHMENT 1):

a. *Initial Reports:* Vols. 142/143 (under one cover) were printed and distributed. Vols. 144 and 145 are at the printer.

b. *Scientific Results:* Vols. 130 and 131 were printed and distributed. Included on a CD-ROM with Vol. 130 were machine-readable versions of the Subject and Taxonomic indexes to Vols. 129 and 130, prepared by Ian Gibson.

c. ATTACHMENT 2 shows volumes scheduled for distribution during the 1994 fiscal year. ATTACHMENT 3 shows the time in production of IR Vols. 120 through 146, and ATTACHMENT 4 shows the time in production of SR Vols. 104 through 139. ATTACHMENT 5 shows the number of volumes published and projected during fiscal years 1987–94.

These attachments were prepared by our Chief Production Editor, Jennifer Hall.

2. Informal publications distributed:

a. Technical Note:
TN 10: *A Guide to ODP Tools for Downhole Measurements* (revised edition)
TN 13: *Stone Soup—Acronyms and Abbreviations for the Ocean Drilling Program*
TN 18: *Handbook for Shipboard Paleomagnetists*
TN 20: *Science Prospectus—FY93–FY94 Atlantic Program*

b. Preliminary Summary of Drilling Results (Hole Summary): Legs 147, 148, and 149

c. Scientific Prospectus: SP 150, 151, and 152

d. Preliminary Report: PR 147, 148, and 149

3. History of manuscript submission and review: Debbie Partain and Janalisa Soltis have continued the series of four graphs that show the period of elapsed time vs. the number of manuscripts during the periods when (1) manuscripts were initially submitted, (2) reviews were received, (3) revised manuscripts were received, and (4) final disposition (acceptance or rejection) was received. The current series of graphs (ATTACHMENT 6) covers SR Vols. 132 and 133. This information shows in detail where lag time developed before and during the review process.

4. Manuscript-submission deadlines: Original and revised deadlines for manuscript submission for SR Vols. 132 through 143 are shown in ATTACHMENT 7, prepared by Janalisa Soltis.

5. Updated Publications policies and procedures: At the last IHP meeting the Panel recommended a number of ways in which Publications could trim costs and thereby stay within our budget in view of a steady average increase in the number of pages in the *Proceedings* volumes. The JOIDES Planning

Committee (PCOM), in conjunction with the JOIDES office and the Joint Oceanographic Institutions, Inc. (JOI), approved a number of steps to achieve these objectives. We have already implemented them. The instructions we are giving the Co-Chief Scientists and members of the shipboard party at pre-cruise briefings and at initial post-cruise meetings are summarized as follows:

Because of an impending funding shortfall for ODP Publications resulting from burgeoning growth in size of *Proceedings* volumes, we are asking for your active involvement in helping to reduce the size of these volumes by 10% to 20% (not counting the pages in *Initial Reports* volumes devoted to barrel sheets, core photos, and associated data). The Staff Scientist will work with you in this endeavor.

We ask that before and/or during your cruise, you and the Staff Scientist examine the feasibility of combining two or more sites into one site chapter; this will reduce the volume significantly.

After the cruise we expect the Hole Summary to be reduced substantially as follows:

1. Redundant text, figures, and tables will be eliminated (tabular material deleted from the text may be moved to CD-ROM, if members of the scientific party document and prepare data files for mastering in time to meet the production schedule).

2. Material that is similar from one leg or site to another (e.g., some components of Explanatory Notes chapters) will be reduced or eliminated.

3. Figures or tables common to multiple sites will be printed at their first citation but not repeated.

4. Text will be reduced to the minimum consistent with describing cores and data. You and the Staff Scientist will be responsible for eliminating conclusions wherever they seem premature.

Scientific Results volumes will be adhering more to usual journal policies in which authors will be asked to reduce manuscripts to the minimum—with members of the Editorial Review Board asking reviewers to help establish that minimum. Tables (except for range charts) longer than one printed page will be moved to CD-ROM, with only a short sample printed in the book. Authors are expected to prepare and document CD-ROM data files themselves to ensure accuracy. Instead of five free photographic plates per *paper,* each *author* is allowed only five free plates, which must be shared by all papers on which that author's name appears. For each plate over five per author, a charge of US$75.00 is assessed to cover preparation costs. [See ATTACHMENT 8 for the definition of a plate, including examples.]

Our target schedule for publishing *Scientific Results* volumes has been reestablished at 36 months post-cruise. We are returning to a policy of strict enforcement of deadlines, which will permit authors and Editorial Review Boards to plan more effectively for their involvement with SR manuscripts. Also, this will allow us to provide more efficient service at lower cost, because we will be able to anticipate our work schedules more effectively.

The above material was incorporated in a letter that Russ Merrill sent to all ERB members, participants in cruises for which manuscripts are still being received, PCOM members, JOIDES Panel chairs, and members of this Panel. The policy change is effective starting with SR Vol. 143. In Lisbon, Russ explained this policy to the incoming scientists of Leg 150. Jack Baldauf, Jamie Allan, Jay Miller, and I went over the policy with the Co-Chief Scientists for Leg 153 at a recent pre-cruise briefing and with the Co-Chief Scientists and other members of the shipboard party at the Leg 147 initial post-cruise meeting. This will continue to be a part of our standard presentations.

6. Other activities: By the time of the IHP meeting next month, the Publications Group will have supported three initial post-cruise meetings since February—those for Legs 146, 147, and 148.

Attachments 1 through 8

Proposed Distribution Dates of ODP Volumes—FY 1993

	Initial Reports Volumes	Post-cruise meeting	Date to printer	Date distributed	Months post-cruise	*Scientific Results* Volumes	Review process completed	Date to printer / indexer	Index to printer	Date distributed	Months post-cruise
October											
November											
December	141	6-5-92	10-26-92	12-18-92	11	129	4-2-92	9-17-92	11-23-92	12-18-92	35
January											
February											
March						130 131	10-30-92 10-30-92	1-26-93 2-10-93	2-22-93 2-26-93	4-9-93 4-9-93	36 33
April	142/ 143	none 10-30-92	1-15-93 2-5-93	4-12-93 4-12-93	13 11						
May											
June											
July	144 145	11-19-92 2-8-93	6-4-93 6-3-93	7-93 7-93	12 10						
August											
September											

Initial Reports volumes are scheduled based on the IHP target date of 12 months post-cruise, unless a post-cruise meeting is set. *Scientific Results* volumes are scheduled based on the shipboard party's target date for submission of material.
Blue indicates actual date of event.
Red indicates deadline extension beyond the shipboard party's original date.

16 June, 1993

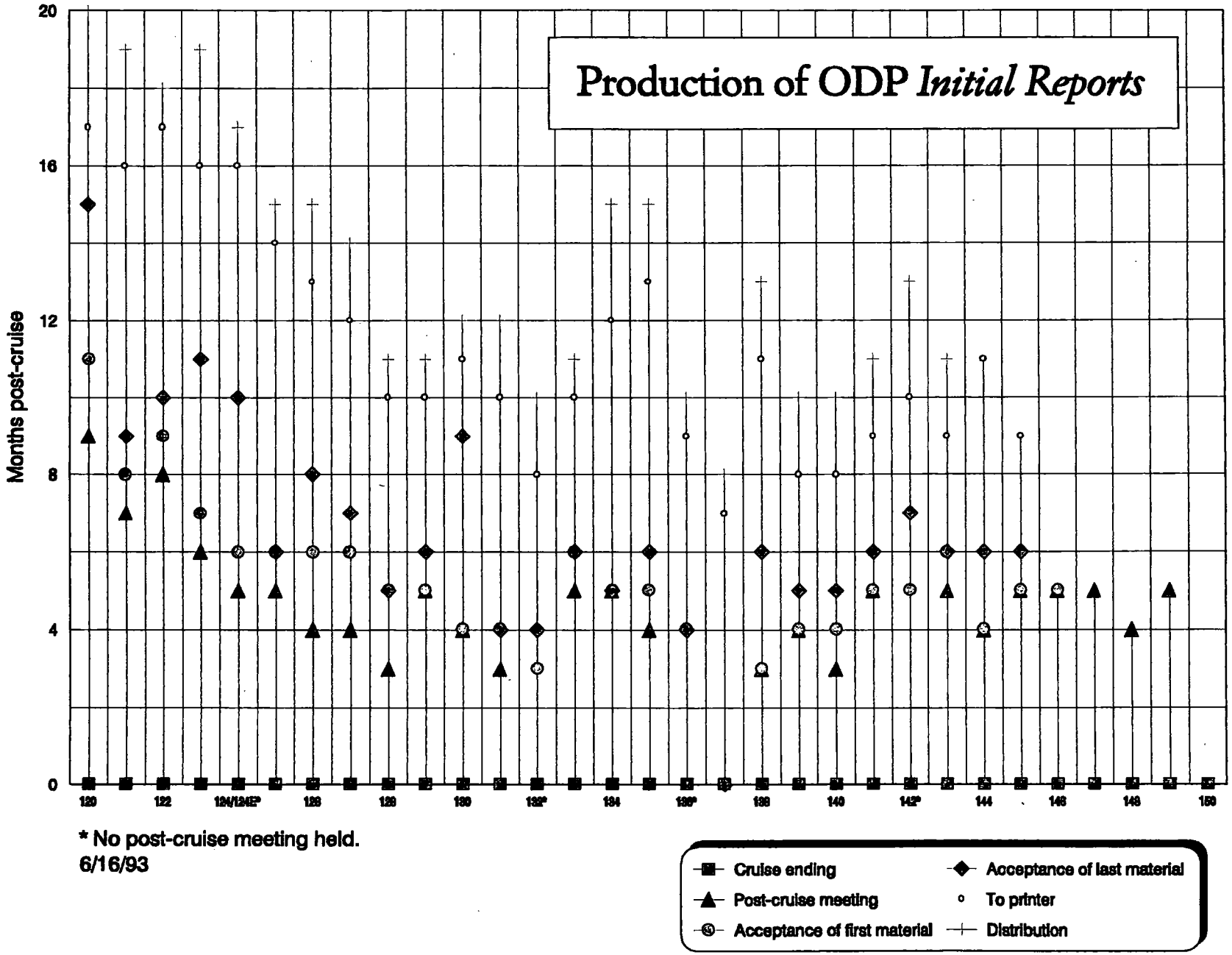
ATTACHMENT 1

Proposed Distribution Dates of ODP Volumes -- Fiscal Year 1994

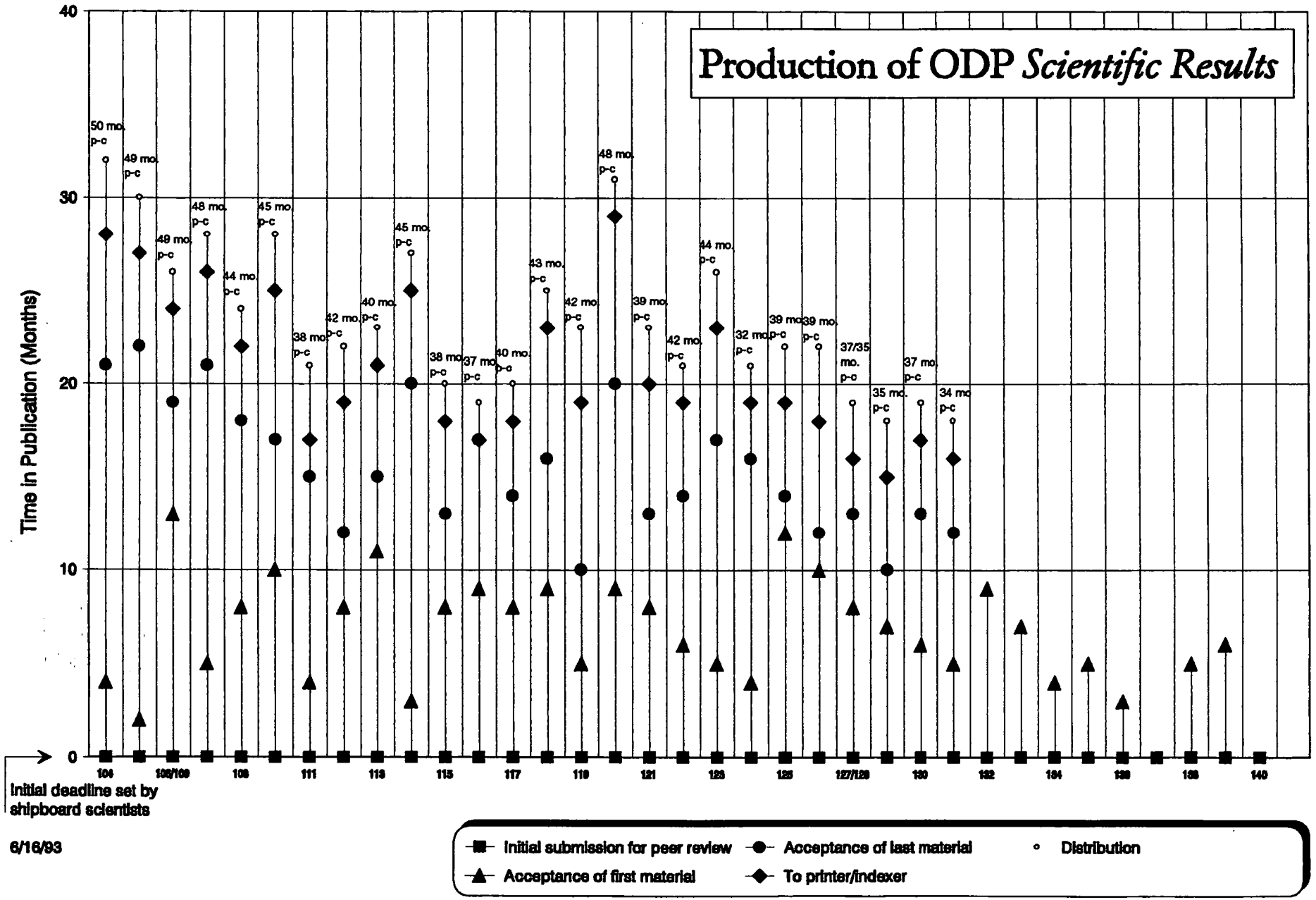
	Initial Reports Volumes	Post-cruise meeting	Date to printer	Date distributed	Months post-cruise		*Scientific Results* Volumes	Review process completed	Date to printer / indexer	Index to printer	Date distributed	Months post-cruise
October												
November	146 147 148	4-19-93 6-7-93 6-28-93	9-93 9-93 9-93	11-93 11-93 11-93	12 10 8							
December							132 133	1-1-93 June 1993 12-15-92 June 1993	10-93 10-93	11-93 11-93	12-93 12-93	40 38
January												
February							134 135 136	1-1-93 August 1993 3-31-93 August 1993 6-1-93 July 1993	12-93 12-93 12-3	1-94 1-94 1-94	2-94 2-94 2-94	38 35 37
March												
April												
May	149	10-18-93	3-94	5-94	12		138 139	10-30-93 10-1-93	3-94 3-94	4-94 4-94	5-94 5-94	34 32
June												
July	150		5-94	7-94	12		137/140	12-15-93	5-94	6-94	7-94	38/32
August												
September	151 152		7-94	9-94	12 10							

Initial Reports volumes are scheduled based on the IHP target date of 12 months post-cruise, unless a post-cruise meeting is set. *Scientific Results* volumes are scheduled based on the shipboard party's target date for submission of material.
Blue indicates actual date of event. Red indicates deadline extension beyond the shipboard party's original date.
*No formal date set at this time. 16 June, 1993

ATTACHMENT 2

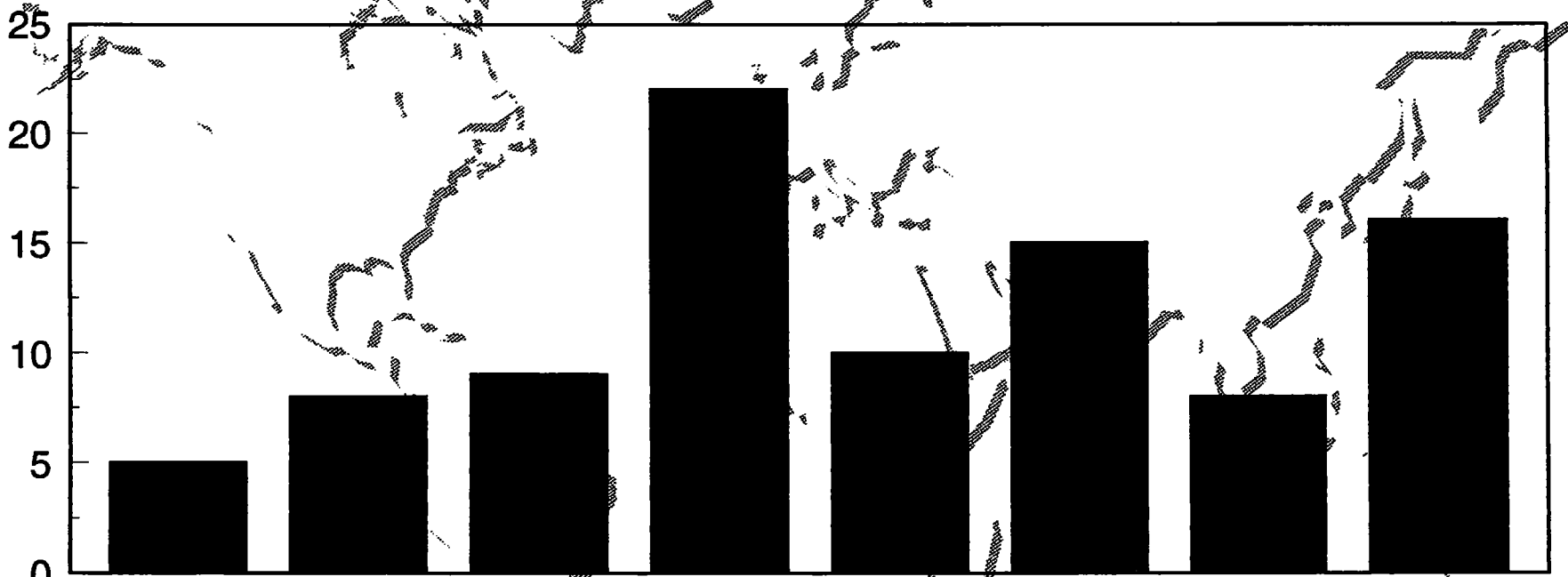


ATTACHMENT 3



ATTACHMENT 4

Proceedings volumes produced each fiscal year



1987	1988	1989	1990	1991	1992	1993*	1994*
5	8	9	22	10	15	8	16

6/16/93
* projected

ATTACHMENT 5

Key for Volumes 132 and 133 IHP graphs:

○ Original specialty manuscript submission deadline (approx. 16 months, or 69 weeks, post–cruise)

◎ Original synthesis manuscript submission deadline (approx. 22 months, or 96 weeks, post–cruise)

△ Closing deadline for specialty manuscript submission (approx. 19 months, or 83 weeks, post–cruise)

◬ Closing deadline for synthesis manuscript submission (approx. 24 months, or 104 weeks, post–cruise)

□ Final submission of specialty manuscript (if later than closing deadline)*

▣ Final submission of synthesis manuscript (if later than closing deadline)*

Synthesis

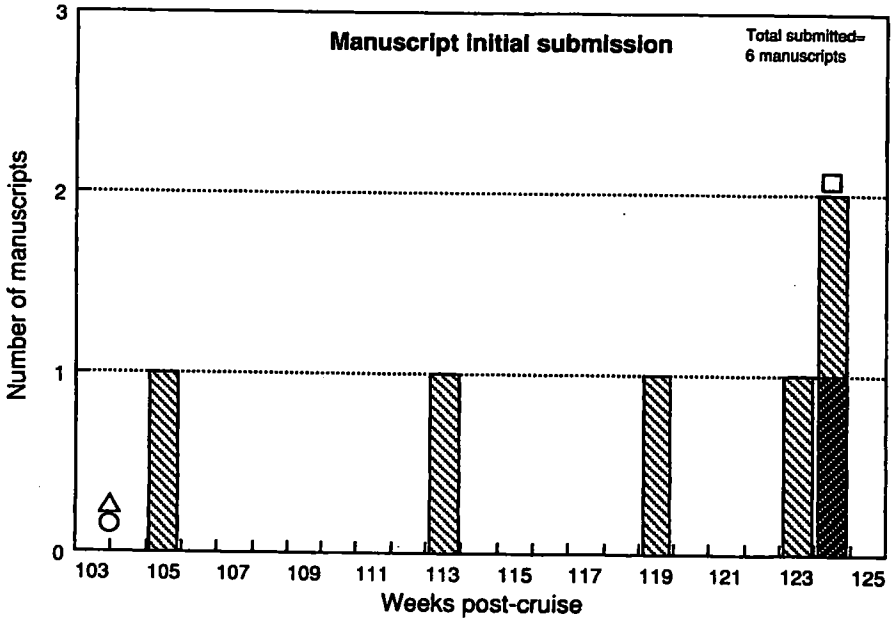
Data Report

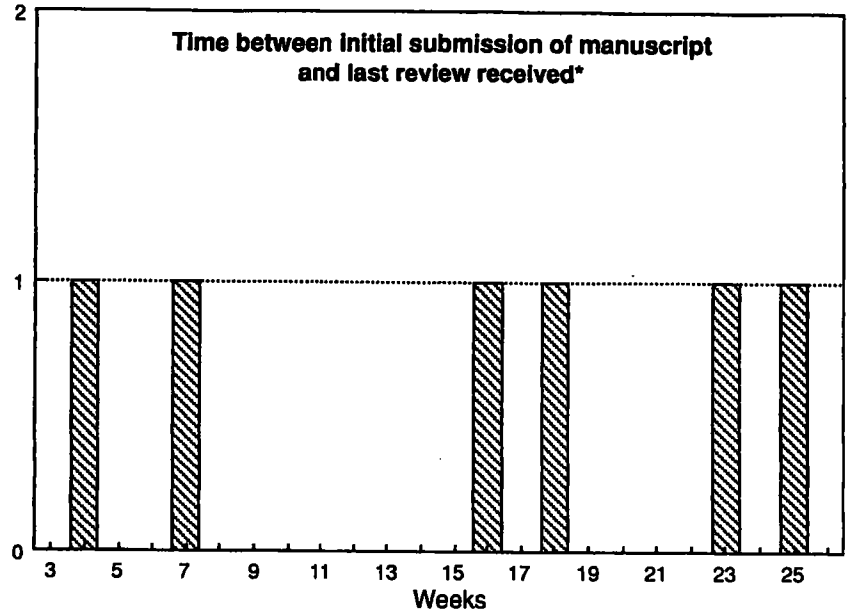
Reprint

*Note: This is the latest submission that was allowed to the volume.

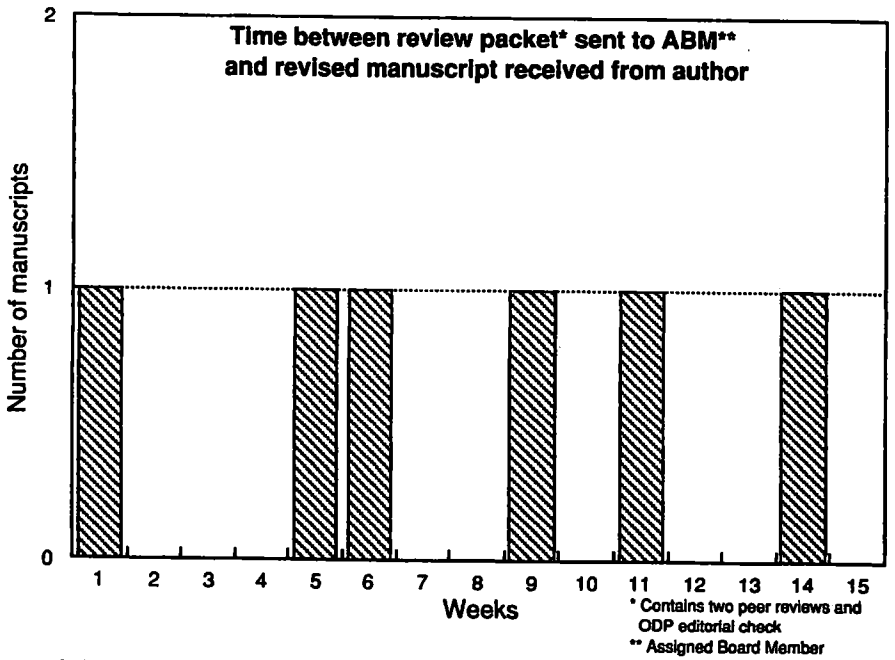
ATTACHMENT 6

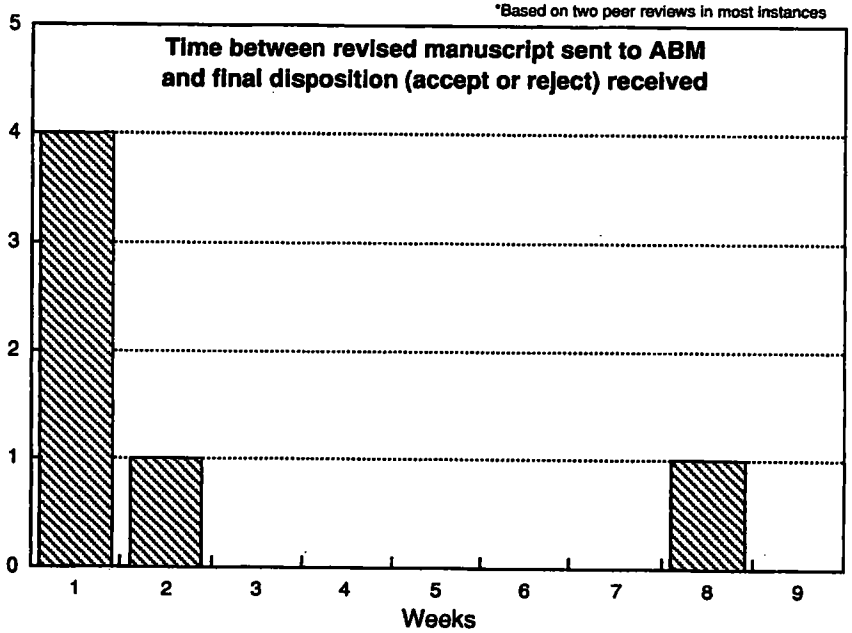
Volume 132B





*Based on two peer reviews in most instances





Leg 132 chief scientist:
James H. Natland, Scripps Institution of Oceanography

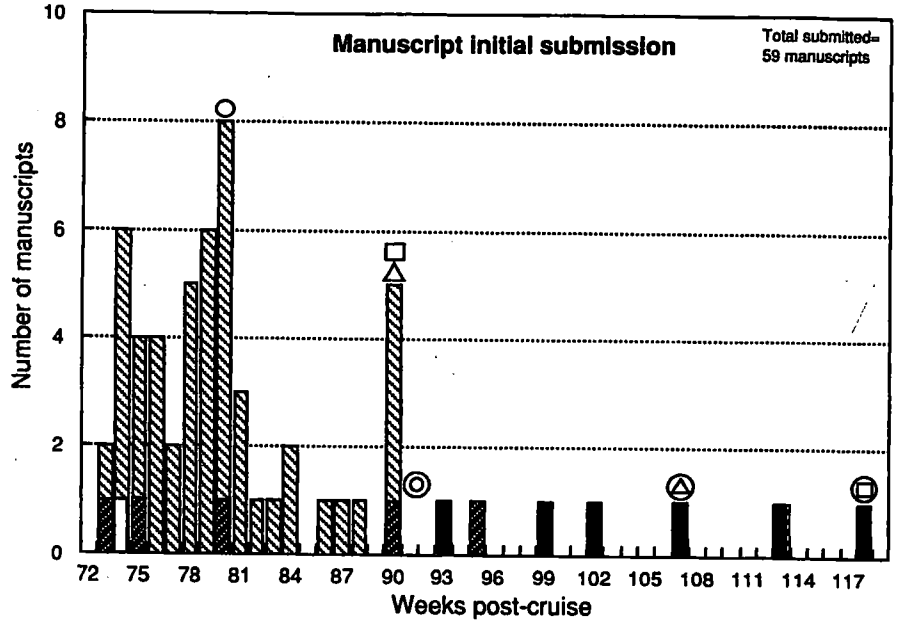
Cruise ending date:
4 August 1990

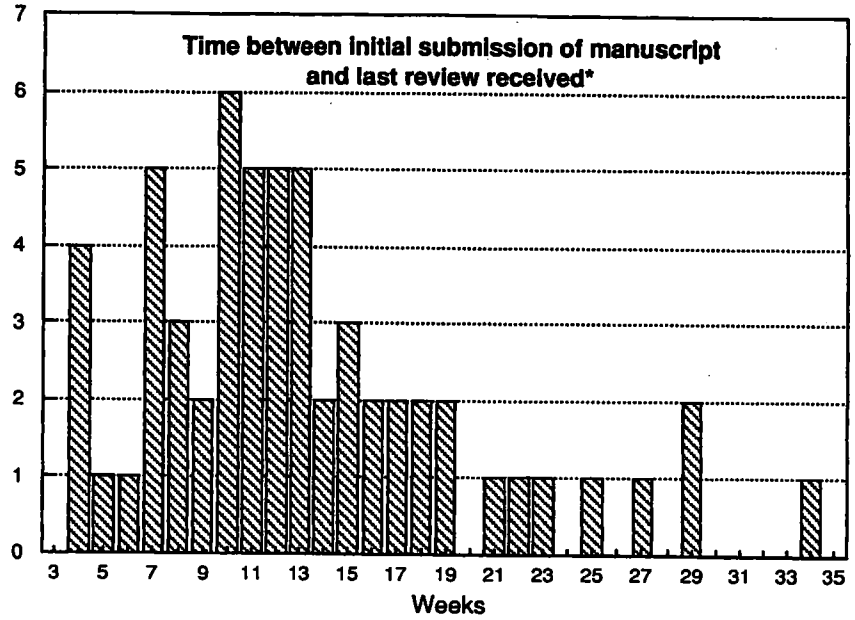
Initial post-cruise meeting:
N/A

Science post-cruise meeting:
N/A

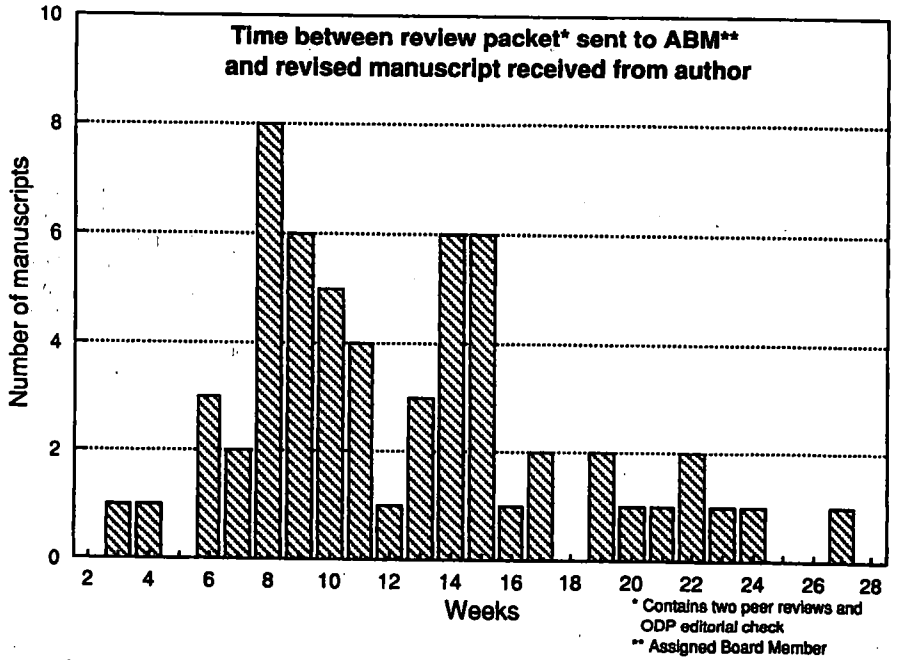
ATTACHMENT 6

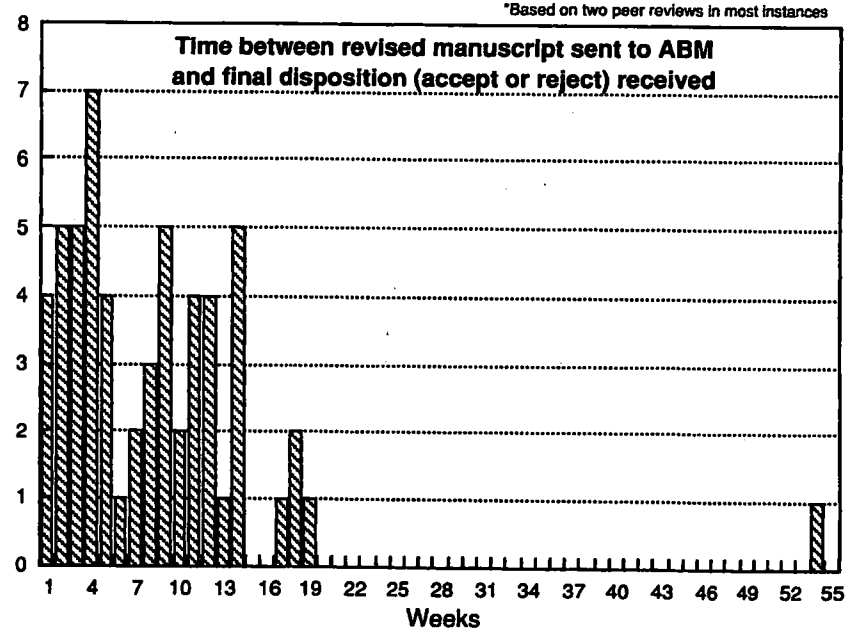
Volume 133B





*Based on two peer reviews in most instances





Leg 133 co-chiefs:
Peter J. Davies, Bureau of Mineral Resources, Australia
Judith A. McKenzie, Eidgenössische Technische Hochschule

Cruise ending date:
11 October 1990

Initial post-cruise meeting:
11 March 1991

Science post-cruise meeting:
25 September 1991

ATTACHMENT 6

Deliverable Results Manuscript Submission Deadlines as of June 23, 1993

Leg	SPECIALTY Initial Submission[1]	SPECIALTY Revised Submission[2]	SYNTHESIS Initial Submission[3]	SYNTHESIS Revised Submission[4]	ALL to Production[5]
132	1 AUG 92 *18 DEC 92*	*11 JUN 93*			15 JAN 93 *
133	15 MAR/15 APR/ **15 MAY/30 JUN 92** *1 JUL 92*	15 JUN 92 *6 MAY 93*	15 JUL 92/30 AUG/ **30 SEP/30 OCT** *14 JAN 93*	15 OCT 92 *22 JUN 93*	**15 DEC 92/15 FEB 93** *
134	15 APR 92/15 OCT *21 SEP 92*	15 AUG 92 *	15 AUG 92/15 SEP 92 *31 MAY 93*	15 NOV 92 *	**1 JAN 93/31 MAR 93/ 31 MAY 93** *
135	30 JUN/30 AUG/ **30 SEP/30 OCT** *17 FEB 93*	30 SEP 92 *	30 DEC 92/10 JAN 93/ **1 MAY 93** *27 APR 93*	28 FEB 93 *	31 MAR 93/30 JUN 93
136	1 SEP 92/5 JAN 93 *22 JAN 93*	1 DEC 92/1 MAR 93 *	1 MAR 93 -NA-	1 MAY 93 -NA-	1 JUN 93 *
138	31 JAN/15 JUN 93 *22 JUN 93*	30 APR 93 *	30 JUL 93	30 SEP 93	30 OCT 93
139	1 DEC 92/1 MAR 93 *	1 APR 93 *	1 JULY 93	1 SEP 93	1 OCT 93
137/140	15 MAR/15 JUL 93	15 JUN 93 *	15 SEP 93	15 NOV 93	15 DEC 93
141	16 JUL 93	16 OCT 93	16 JAN 94	16 MAR 94	16 APR 94
142	30 JUN 93	30 SEP 93	30 DEC 93	28 FEB 94	30 MAR 94
143	1 OCT 93	1 JAN 94	1 APR 94	1 JUN 94	1 JUL 94

Deadlines established by IHP (updated Feb 91):

[1] 16 months post-cruise (specialty initial)
[2] 19 months post-cruise (specialty revised)
[3] 22 months post-cruise (synthesis initial)
[4] 24 months post-cruise (synthesis revised)
[5] 25 months post-cruise (ALL to Production)

36 month schedule (effective Leg 143):

18 months post-cruise (specialty initial)
23 months post-cruise (specialty revised)
24 months post-cruise (synthesis initial)
27 months post-cruise (synthesis revised)
29 months post-cruise (ALL to Production)

Dates in italics: Actual submission of last manuscript
Dates in bold: New deadlines
* still expecting late submissions

ATTACHMENT 7

Plates
06/25/93

Definition of plate: a plate is a piece of artwork that is a full page including caption. It is usually made up of a number of small photographs, which come in two varieties:

1. photographs with right-angle corners (example 1), and
2. photographs with free-form edges (examples 2, 3, and 4).

Some plates of the free-form variety require a black background printed to the edge of the photograph, with white identifying marks reversed out of the black (examples 3 and 4).

All plates require a numbering system, which is an additional overlay. Some plates require multiple overlays to produce identifying marks, because a single plate can require some identifying marks in white and some in black.

The first variety (1, above) is not particularly difficult or expensive to prepare, although the complexity is determined by the number of photographs and the number of overlays required for identifying marks. About 60% of the plates are right-angle plates.

The second variety (2, above) can require hours of labor due to the process required to produce them. Each individual photograph must have an overlay prepared that is cut with an X-acto knife. The overlay follows each curve of the image. The complexity of this work is determined by the complexity of the free-form photograph and the number of photographs within a plate. About 40% of the plates are free-form.

PREPARATION COSTS	
1. Simple right-angle plate	
Cutting rubylith and building overlays, 1 hour	$22.50
Halftone negative	$9.50
Line negative	$7.50
Reverse overlay for identifying marks	$7.50
TOTAL	**$47.00**

PREPARATION COSTS	
2. Complex free-form plate, black background	
Cutting rubylith and building overlays, 4 hours	$90.00
Halftone negative	$9.50
Line negative	$7.50
Black-background negative	$7.50
Reverse overlay for identifying marks	$7.50
TOTAL	**$122.00**

Number of plates from *Scientific Results* volumes per year				
1989	1990	1991	1992	1993
159	582	178	465	47

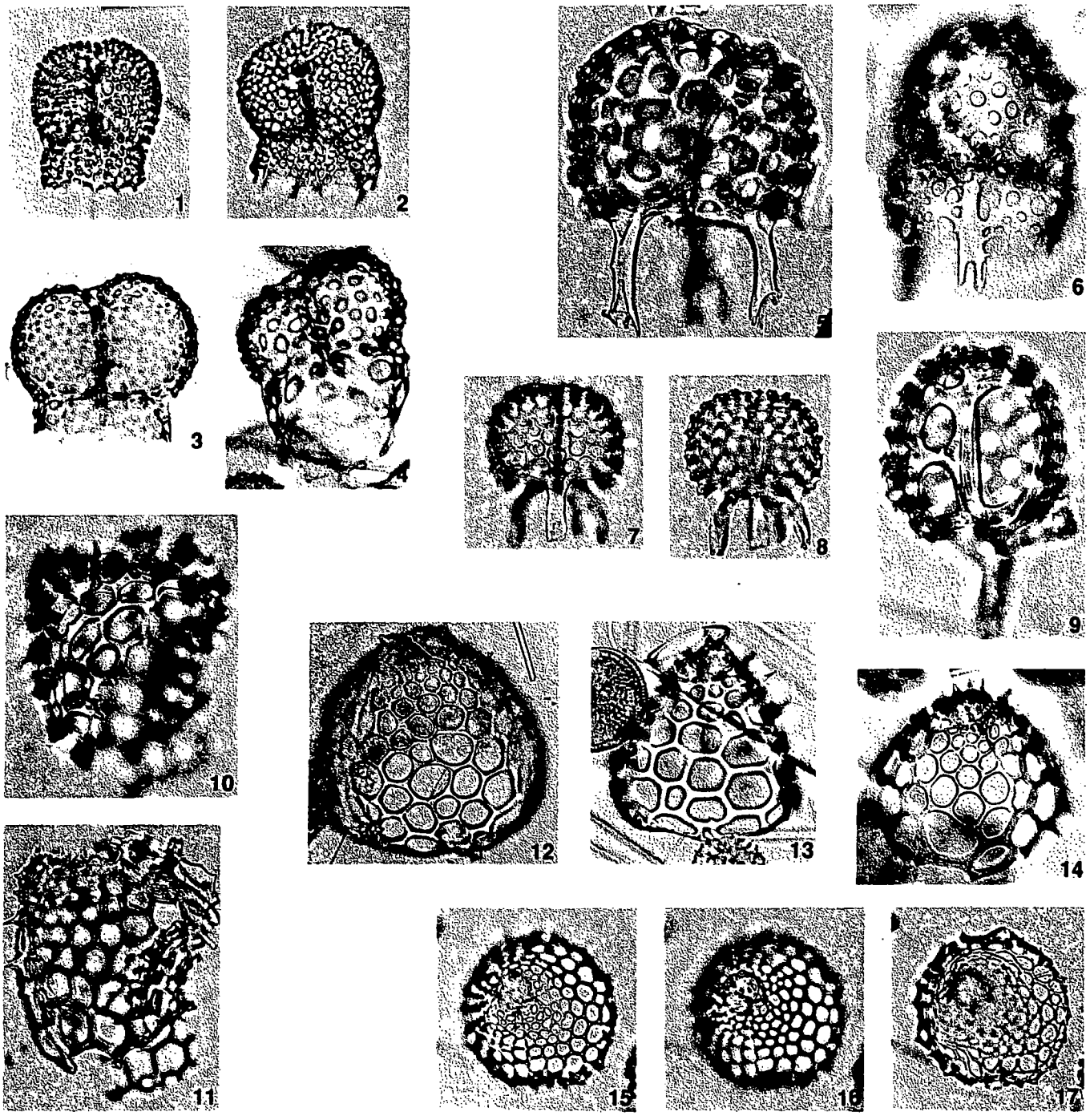


Plate 7. **1–2.** *Dendrospyris megalocephalis*?; (1) Sample 120-747B-5H-6, 32 cm, 82.8/13.4; (2) Sample 120-747B-5H-6, 112 cm, 80.6/19.5. **3–4.** *Desmo-spyris rhodospyroides;* (3) DSDP XX-329-13-CC; (4) DSDP XX-278-13-1, 140 cm. **5–9.** *Triceraspyris coronata;* (5) Sample 120-747B-6H-4, 32 cm, 89.2/9.1; (6) Sample 120-746A-5H-1, 53–55 cm, 82.3/21.7; (7–8) Sample 120-747A-4H-4, 45 cm, 42.8/83.2; (9) Sample 120-747B-6H-3, 113 cm, 86.2/40.8. **10–17.** *Ceratocyrtis* sp.; (10–11) Sample 120-744A-10H-1, 60 cm, 85.0/35.2; (12) Sample 120-744A-9H-1, 60 cm, 103.6/37.7; (13) Sample 120-751A-9H-2, 98 cm, Piece 1, 81.0/17.3; (14) Sample 120-746A-8H-1, 53 cm, 82.1/17.8; (15–17) Sample 120-744A-9H-1, 60 cm, 97.8/15.1. Magnifications: Figures 5, 6, and 9 are Scale B; the rest are Scale A (except for Figures 3 and 4, for which the scale is unknown).

Example 1

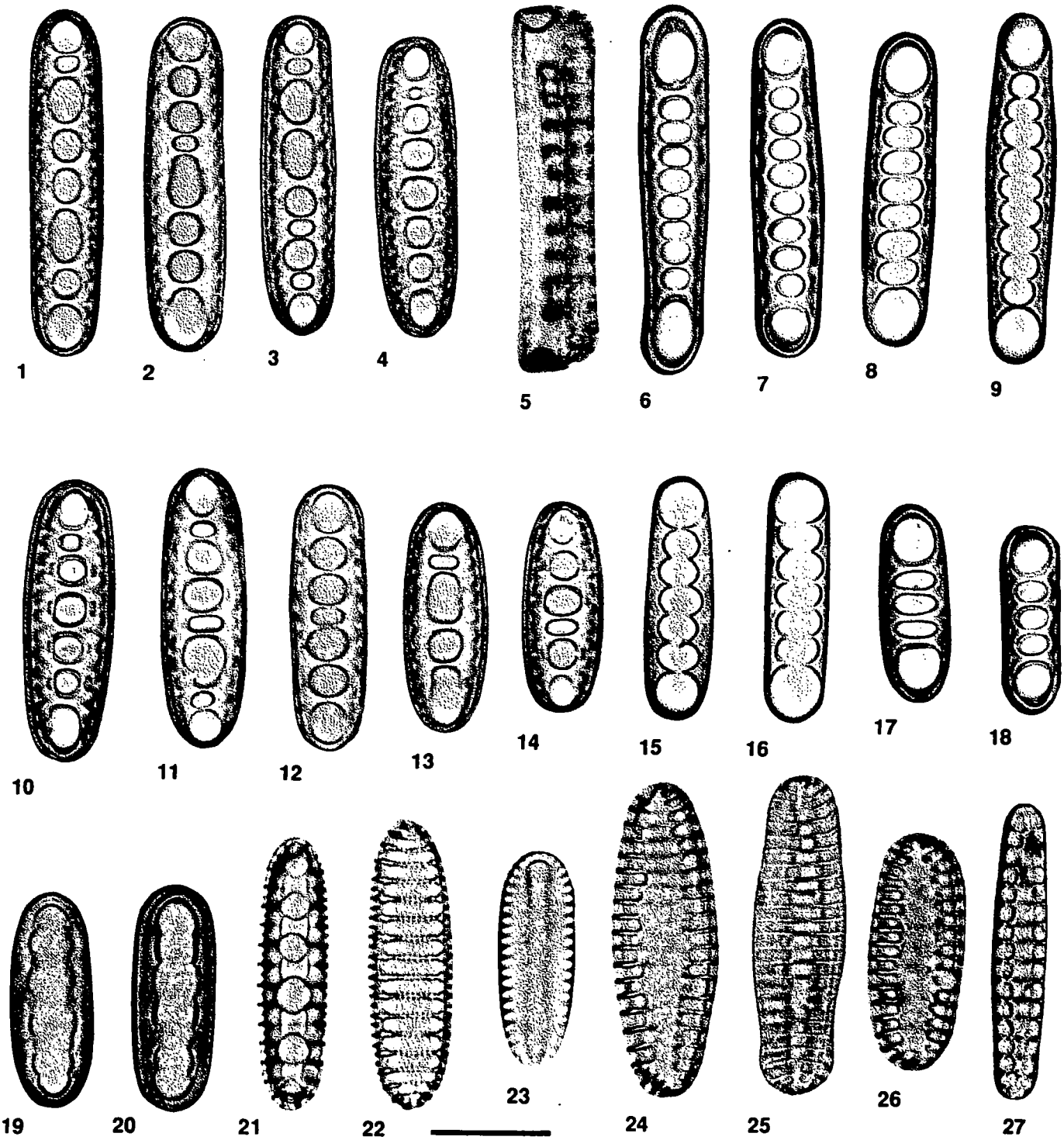


Plate 9. Scale bar equals 10 μm. **1–4, 10–14.** *Denticulopsis meridionalis* n. sp., copula, Sample 120-751A-9H-4, 105–106 cm. **5–9, 15–18, 22, 23.** *Denticulopsis dimorpha;* (5) girdle view of theca; (6, 7, 8, 17, 18) copula; (9, 15, 16) copula (spiny type); (22) external view of valve; (23) copula (open band), Sample 120-751A-9H-4, 105–106 cm. **19–21.** *Denticulopsis hustedtii;* (19, 20) copula (closed band), Sample 120-751A-7H-1, 105–106 cm; (21) internal view of valve with deck, Sample 120-751A-9H-4, 105–106 cm. **24–26.** *Nitzschia denticuloides,* external view of valve, Sample 120-751A-12H-2, 105–107 cm. **27.** *Denticulopsis maccollumii,* external view of valve, Sample 120-751A-14H-3, 105–107 cm.

Example 2

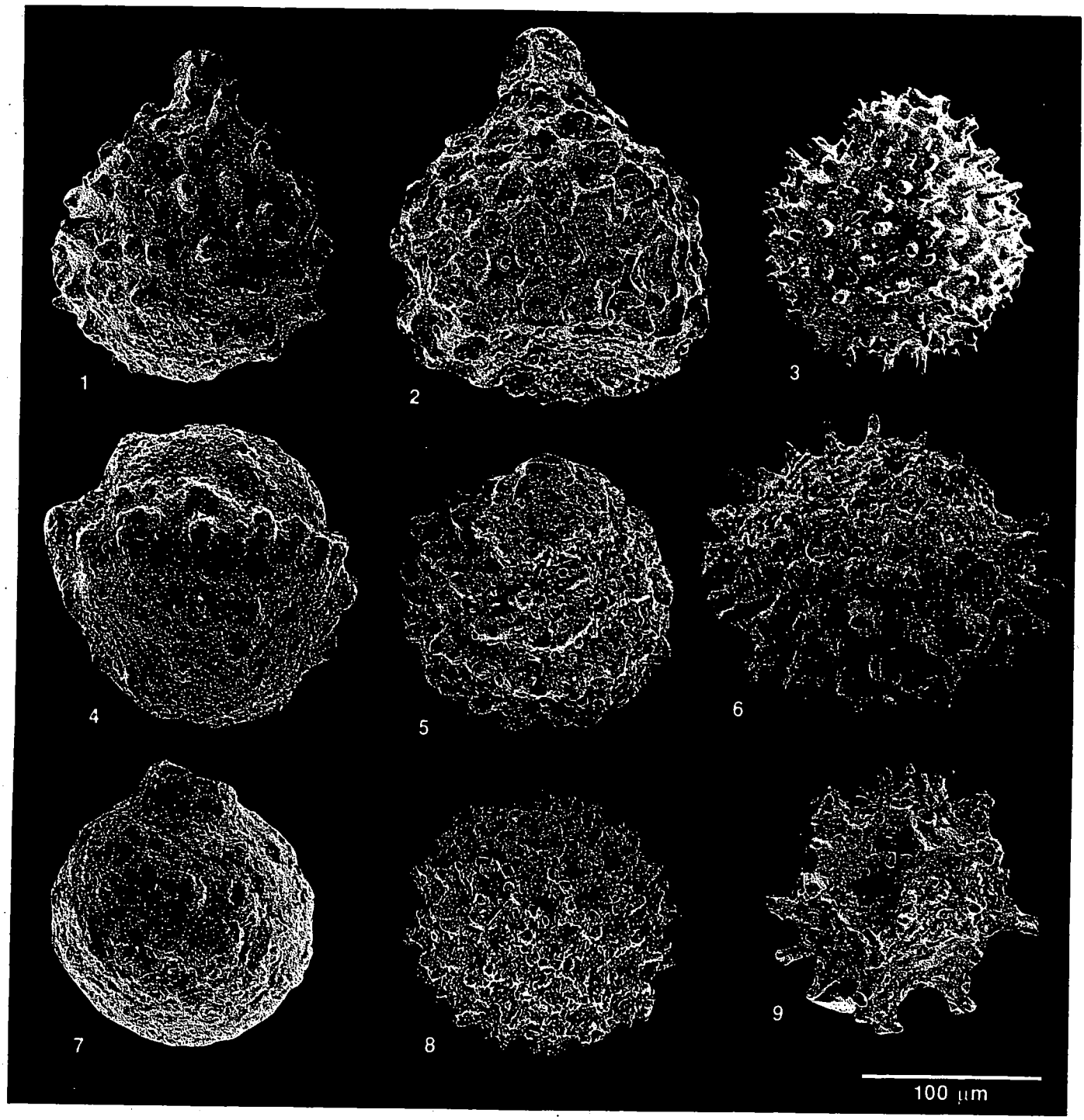


Plate 1. 1. *Bolboforma* cf. *subfragori* (transition to *B. clodiusi*), Sample 120-747-4H-4, 108–112 cm. 2. *Bolboforma metzmacheri* (Clodius, 1922), Sample 120-747-4H-7, 72–76 cm. 3. *Bolboforma clodiusi* von Daniels and Spiegler, 1974, Sample 120-747A-4H-7, 72–76 cm. 4. *Bolboforma capsula* Spiegler, 1987, Sample 120-747A-6H-2, 72–76 cm. 5. *Bolboforma subfragori* Spiegler and von Daniels, 1991, Sample 120-747A-6H-2, 72–76 cm. 6. *Bolboforma compressispinosa* Spiegler and von Daniels, 1991, Sample 120-751A-11H-4, 72–76 cm. 7. *Bolboforma laevis* von Daniels and Spiegler, 1974, Sample 120-747A-7H-4, 72–76 cm. 8. *Bolboforma spinosa* von Daniels and Spiegler, 1974, Sample 120-751A-14H-2, 36–40 cm. 9. *Bolboforma latdorfensis*, Spiegler and von Daniels, 1991, Sample 120-748B-14H-5, 72–76 cm.

Example 3

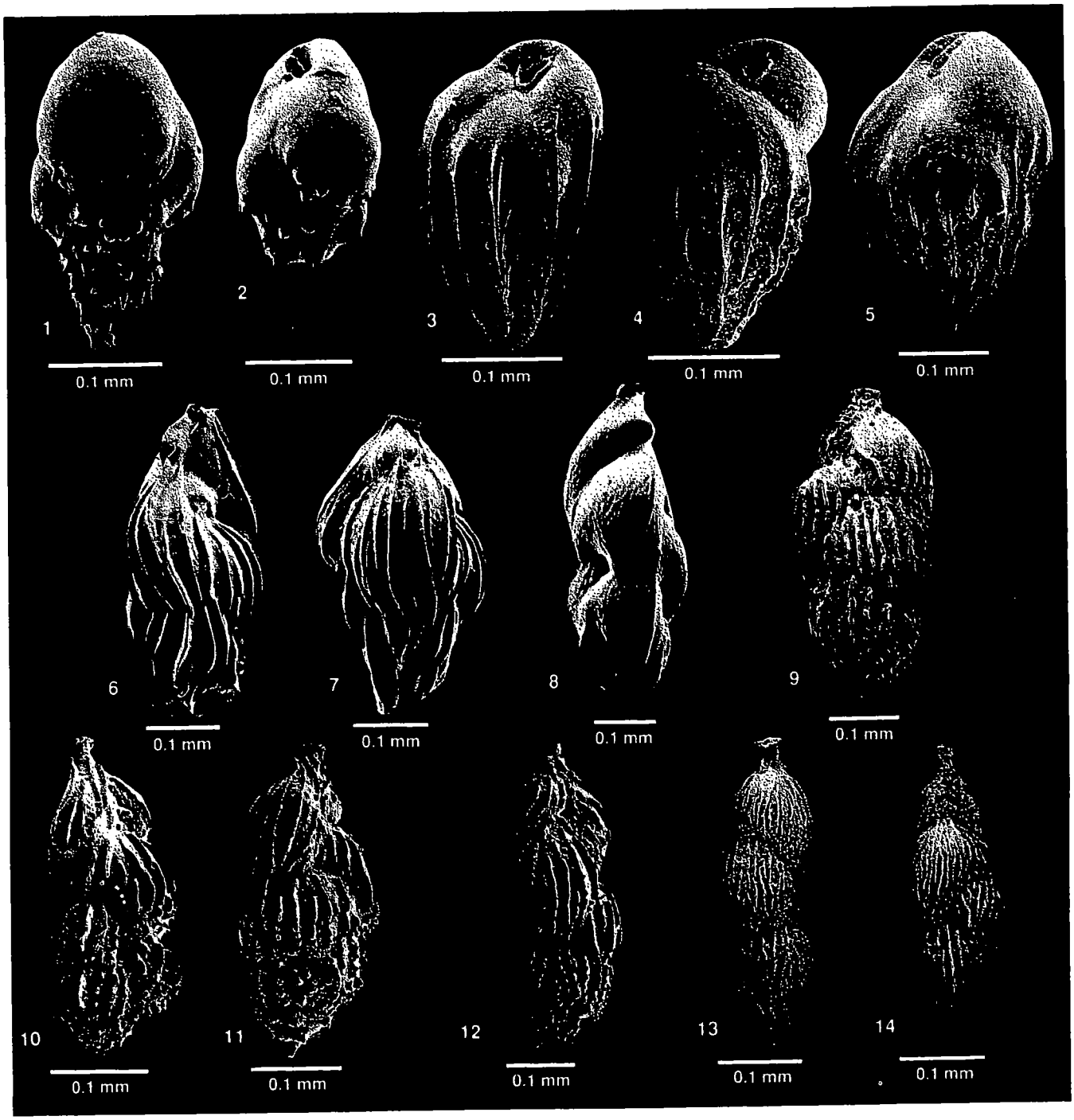


Plate 1. **1–2.** *Bulimina aculeata* d'Orbigny, Sample 120-751A-1H-1, 0–4 cm. **3–4.** *Bulimina alazanensis* Cushman, Sample 120-751A-17H-2, 36–40 cm. **5.** *Bulimina striata* d'Orbigny. Sample 120-751A-17H-2, 36–40 cm. **6–8.** *Trifarina angulosa* (Williamson), Sample 120-751A-2H-1, 72–76 cm. **9–12.** *Uvigerina hispidocostata* Cushman and Todd, Sample 120-751A-17H-2, 36–40 cm. **13–14.** *Uvigerina* sp., Sample 120-751A-6H-3, 72–76 cm.

Example 4

Curation and Repositories
January 1993 through June 1993

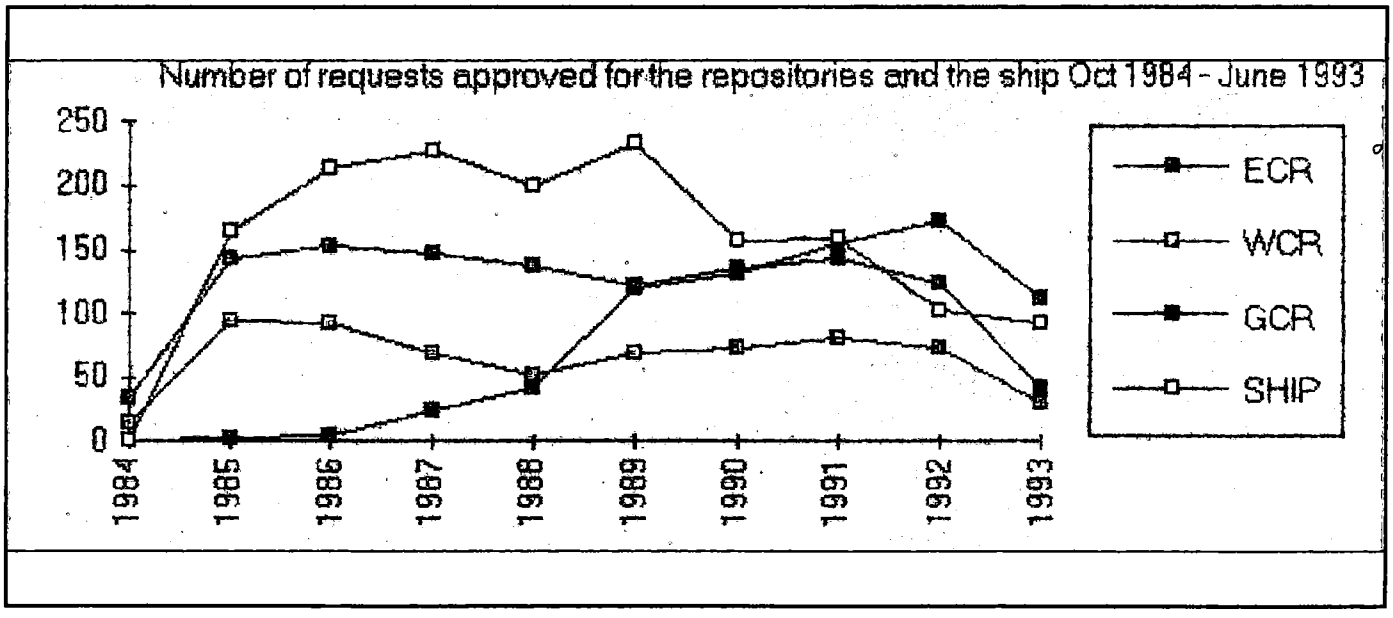
I. Sample Requests

The Assistant Curator and the Data Assistant responded to 4,470 requests for samples since September 1984. During the period January 1993 through June 1993, a total of 264 requests were processed. The average request approval time during this period is 2.1 weeks.

The average sampling turn-around time for mail order requests (excluding visitors), is based on the date a request is received by the Assistant Curator through the date the samples are shipped from the repository. In the case of the remote repositories, this includes the mailing time from TAMU to the repository.

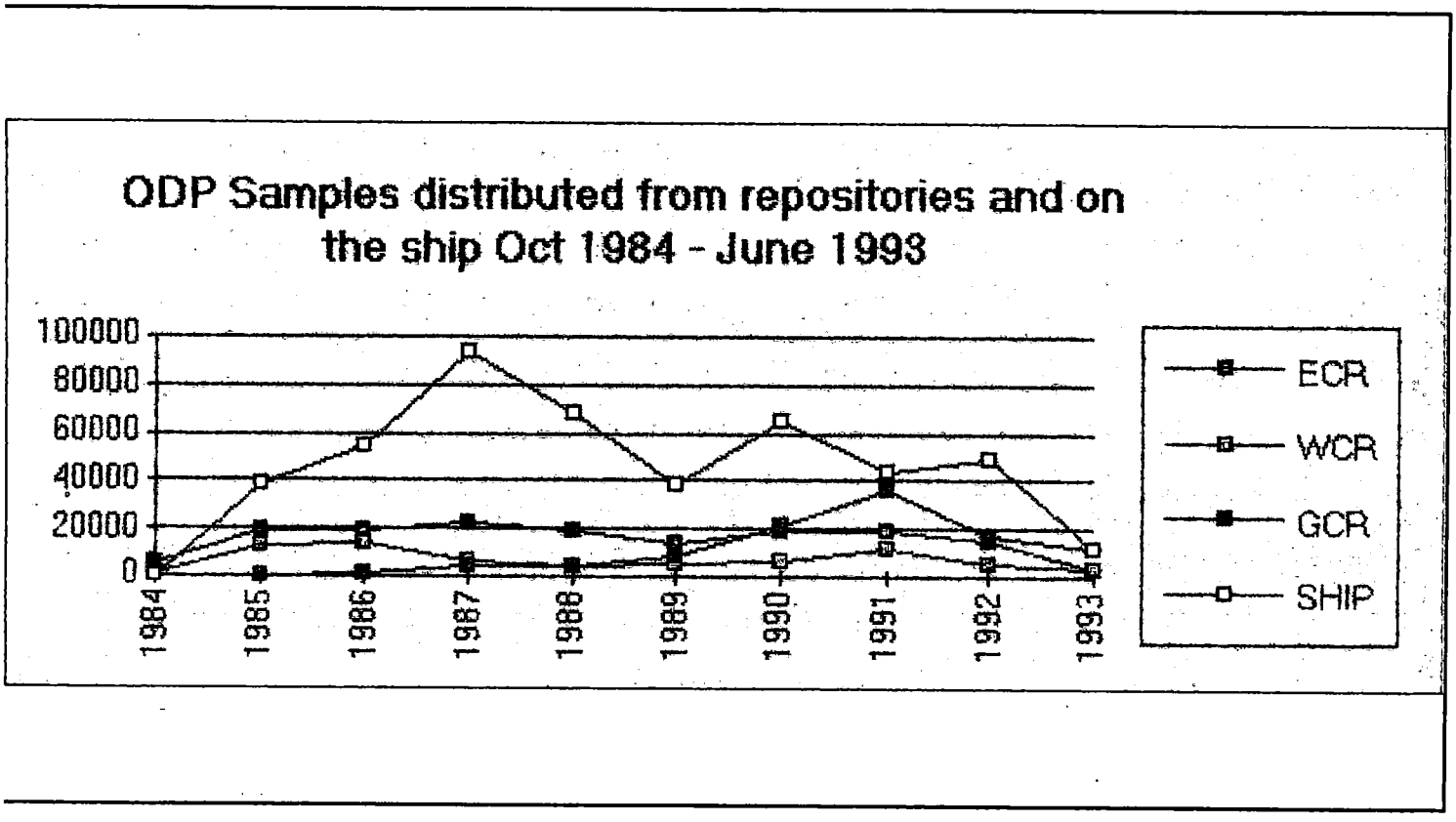
Average turnaround:

ECR = 2.6 weeks
GCR = 1.3 weeks
WCR = 1.9 weeks



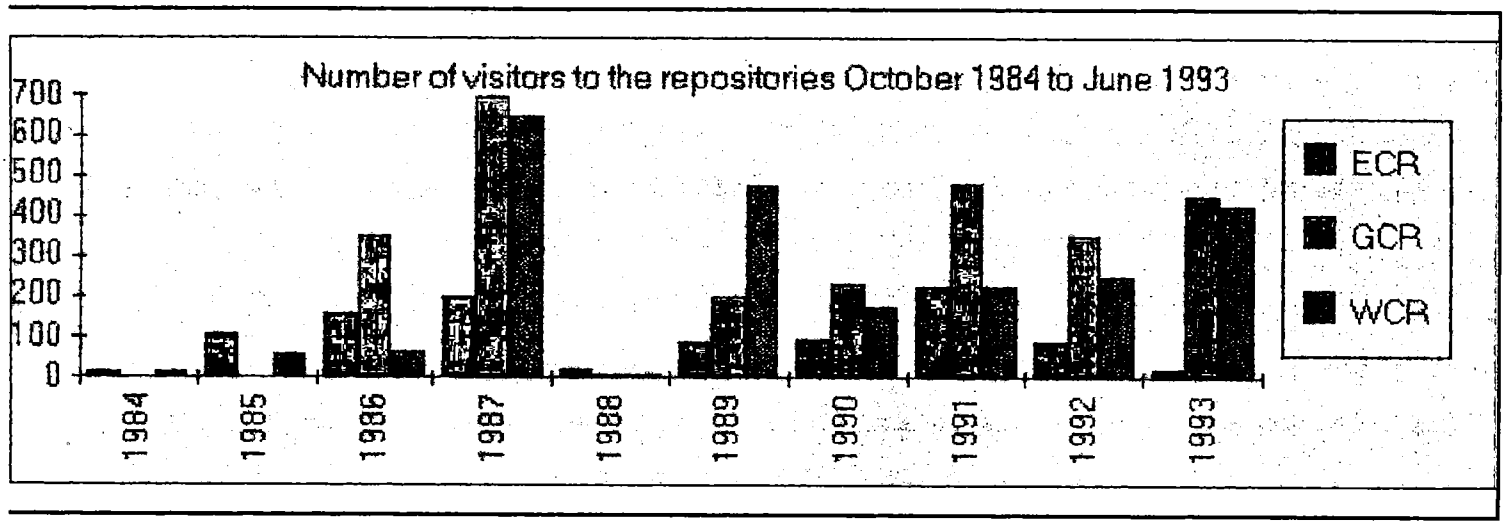
II. Sample Distribution

The Ocean Drilling Program has distributed 29,135 samples during the first half of 1993. The repositories distributed a total of 17,504 samples, while the remaining 11,631 samples were issued from the ship.



III. Visitors

About 6,100 people have visited the repositories since September 1984. Many of them were scientists who wished to view, photograph and sample the cores. The peak number of visitors represent special occasions such as the numerous visitors in 1987 who came to see the newly occupied ODP building. Approximately 900 scientists, tourists and students have visited the repositories in 1993.



IV. Activities

Core Recuration Project

The recuration program was initiated by DSDP in 1982 and continued by ODP in 1985 in an effort to combat the advanced state of deterioration of many cores due to expansion, desiccation, heavy sampling associated with lack of proper curatorial maintenance, and poor initial shipboard curation. All cores are recurated prior to sampling when necessary. This includes restructuring the pieces of core that may have moved up to 1.5 meters inside the liner, matching the archive and working halves with core photographs, and barrel sheets.

The ECR has one full-time temporary worker systematically recurating the cores. She was reassigned to shift cores in preparation for Legs 149-151, consequently she re-curated only 31 sections during the period of 1 January - June 1993. The GCR rewet D-tube sponges for legs 144 and 145 (about 4,500 sponges). About 325 sections of core were re-curated at the GCR. The core recuration project at the WCR was inactive during this period.

Special projects

The ECR reconfigured the core rack layout, purchased higher core racks, and shifted about 24,000 core sections. This should provide enough space for the Atlantic cores through the end of the lease agreement (31 September 1993).

Dedicated cores from DSDP leg 96 that were studied by Dr. Bill Bryant (roughly 100 sections) were retrieved, split (if necessary), placed in D-tubes and are temporarily stored at the GCR. Once all the dedicated cores (about 335 sections) have been curated and photographed they will be forwarded to the ECR.

The WCR built movable shelves to hold the various IW sediment residues. They are numbering their core racks to facilitate keeping track of special cores and their locations.

We researched the feasibility of using an ultrasound welder to adhere end caps and dividers to the core liners. Adopting this technique will reduce the use of acetone on the ship, however, the equipment is expensive. We have purchased one unit for evaluation in the cutting room onboard the ship.

Software

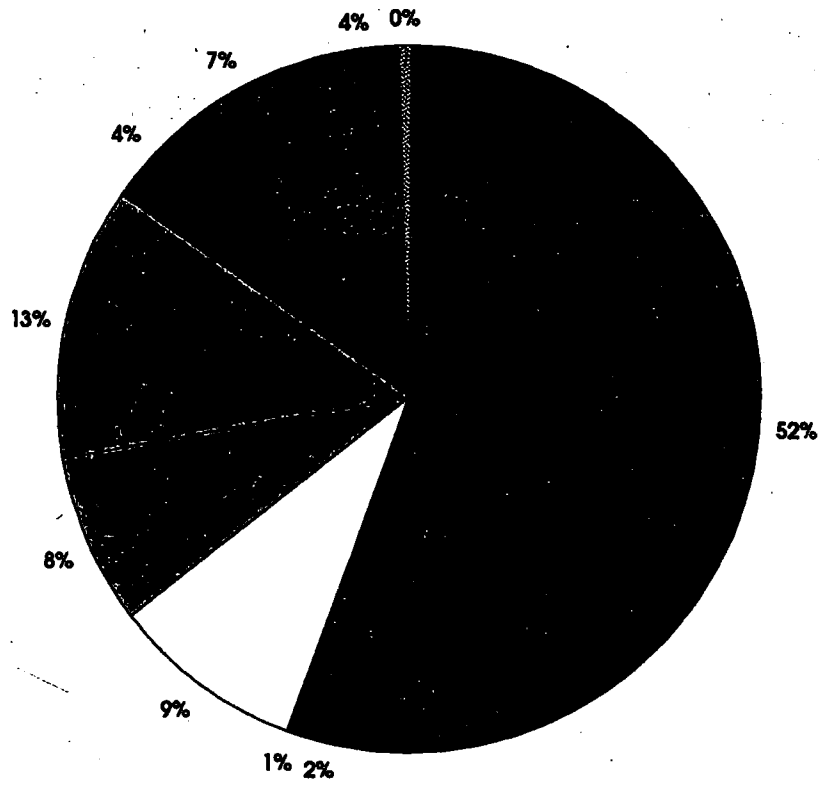
Progressive versions of the RESIDUE dataset and user-interface programs were tested and evaluated.

A major overhaul of the TSINFO dataset interface was completed. The modification simplifies data entry in TSINFO by copying much of the data from the SAMPLE dataset. We hope that this will improve the thin section technician's inclination to enter the data into electronic format onboard the ship.

Communications

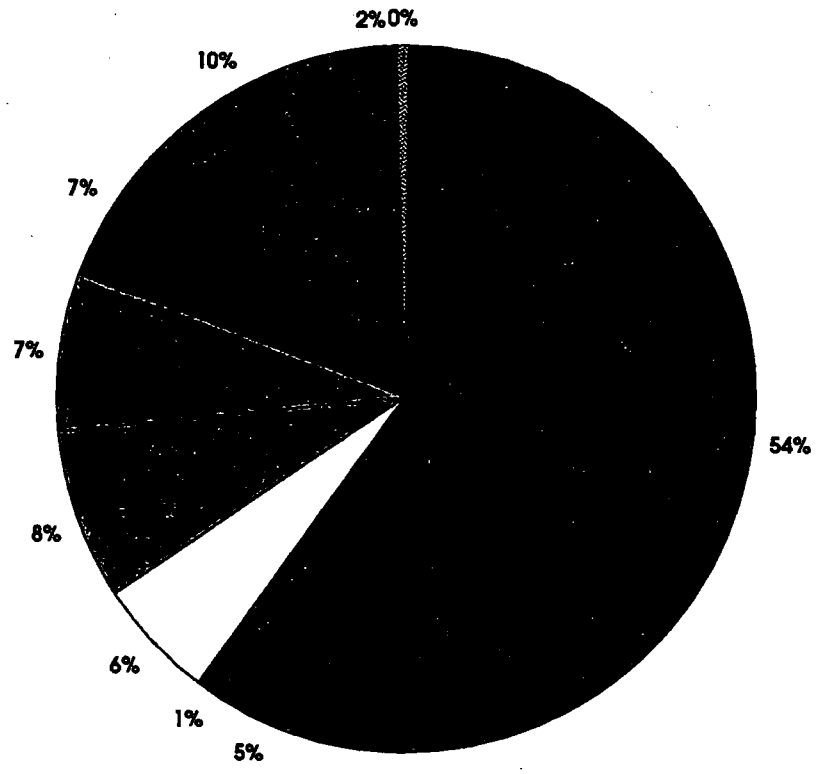
In an effort to improve the sampling turn-around times, the Assistant Curator will begin faxing requests to the remote repositories. In the past some requests have been tied up for 1-2 weeks in domestic mail. Faxing the requests will eliminate this delay.

Total Number of Samples, DSDP and ODP 1984-1993



- USA
- Canada
- Australia
- ESF (Italy, Spain, Switzerland, Sweden, Norway, Netherlands, Denmark, Iceland, Greece, Finland)
- Germany
- France
- Japan
- UK
- USSR, Russia
- Other Countries (Chile, Korea)

Total Number of Requests, DSDP and ODP 1984-1993



- USA
- Canada
- Australia
- ESF (Italy, Spain, Switzerland, Sweden, Norway, Netherlands, Denmark, Iceland, Greece, Finland)
- Germany
- France
- Japan
- UK
- USSR, Russia
- Other Countries (Chile, Korea)

Borehole Research Group, Computing Report
Information Handling Panel, July 21-23rd, 1993

Status of Shipboard Systems

Leg 149A: Schlumberger Equipment change with the installation of Multitask Acquisition & Imaging System (MAXIS) and Offshore Service Unit with winch (OSU-F). The MAXIS will provide increased data acquisition capabilities and enhances the accuracy of logging measurements. It will also color prints of the FMS images to be distributed almost immediately after logging. The OSU-F replaces the old wireline winch that had been on the ship since ODP's beginning.

Leg 149B/C: a Sun IPX system replaced the Masscomp computers in the Downhole Measurements Lab. Preliminary log processing is undertaken on this workstation with Khoros, an integrated information processing and visualization software package. Khoros replaces the Terralog system run on Masscomp.

Leg 150: FMS raster conversion from MAXIS images to VAX to Macintosh for all shipboard scientists use. Previous images were processed on the VAX by a TAMU processor. On this leg, the BRG will look at ways to eliminate the image processing step, and directly convert MAXIS raster files to a PBM file for importing into a Macintosh-based visualization software such as NIH Image.

Leg 151: TAMU FMS processor subcontract support eliminated due to distribution of other ways of distribution of data, such as color prints off the MAXIS, image raster conversion, and decrease in funding for upcoming year.

Future: Elimination of VAX 3200 system in DHML. The VAX and existing log processing software, LOGOS, will be replaced by a Sun Workstation dedicated to a UNIX based log processing software such as GeoFrame or Z & S. FMS processing will be completed in one-fourth the time of LOGOS and will provide extensive data display capabilities such as manipulation of FMS images, dip interpretation, and 3-D visualization.

Status of Shore-based Systems

Present: Reconfiguration of entire computer network at BRG, which includes Ethernet, and Macintosh, Vax, and Sun systems. All Sun workstations were brought upstairs to create one computer room for VMS and UNIX servers, and a Sun 10/30 was added to the Sun network. The Masscomp system was removed and process began on transferring ALL Masscomp UNIX programs to Sun UNIX.

FY94 Future:

1. BRG plans to acquire a CD-Write Once machine for pre-mastering Initial Reports Volume CD-ROMs. This will take burden off of NGDC and give us the opportunity to explore the possibilities of data and information distribution through the CD-ROM medium.
2. Upgrade of the log analysis processing system from LOGOS to either Schlumberger's GeoFrame or Z & S log processing software. The shorebased package will be in place before the shipboard, but both systems will be compatible.

Borehole Research Group
Database Group Report

Information Handling Panel
July 21-23, 1993

The present report consists of:
1. Database report
2. Publication update
Appendix 1. Update of data distribution policy
Appendix 2. Update of data requests by country
Appendix 3. Features of the Khoros system.

1. Database Report

The ODP Wireline Log Database now comprises data from 49 legs, including both original and processed data, conventional Schlumberger logs and specialty tools (borehole televiewer, multichannel sonic, and temperature), borehole images and sonic waveforms. The entire database is catalogued through a Macintosh-based system that is updated routinely and which allows for easy access of information about the logs recorded at each hole. In addition, the data management program contains information on over 800 data requests fulfilled to date.

DAT tape backup

The first phase of the backup of ODP well log data from magnetic tapes onto DAT 4 mm tapes (two copies) is underway. Only proprietary tapes of conventional logs (not FMS) are currently being backed up. Backup of FMS proprietary data, conventional log customer tapes and library tapes (processed data) will be performed as soon as phase 1 is completed. The entire copying process could take up to one year (June 1994) as each copy is carefully double checked and detailed information about the data is entered into the database. Phase 1 has been slowed down by problems encountered with some of the older tapes, many of which suffer from age-related damage (Legs 115 and 117). Because these tapes are contaminated and demagnetizing with time, an attempt will be made in-house to retrieve the data as soon as possible; should this fail, commercial companies will be contacted to attempt the retrieval.

The following legs have been backed up to date: 101 thru 114, 118 thru 123, 125 thru 127, 131, and 146 thru 149 for a total of 26 legs.

ODP Well Log Data Distribution Policy

The ODP Well Log Data Distribution Policy (see Appendix 1) has been revised to account for the changes in data archiving introduced recently, such as the new format for FMS images and the availability of a well log CD-ROM.

Data Request Update

Seventy-eight requests were fulfilled in the first trimester of 1993 and only eight in the second. In fact, most of the requests filled since March were FMS data requests that were part of previous requests only partially fulfilled in the first trimester of 1993 and therefore not entered into our cataloging system (Figure 1). An update of data request ordered by country/institution is presented in Appendix 2.

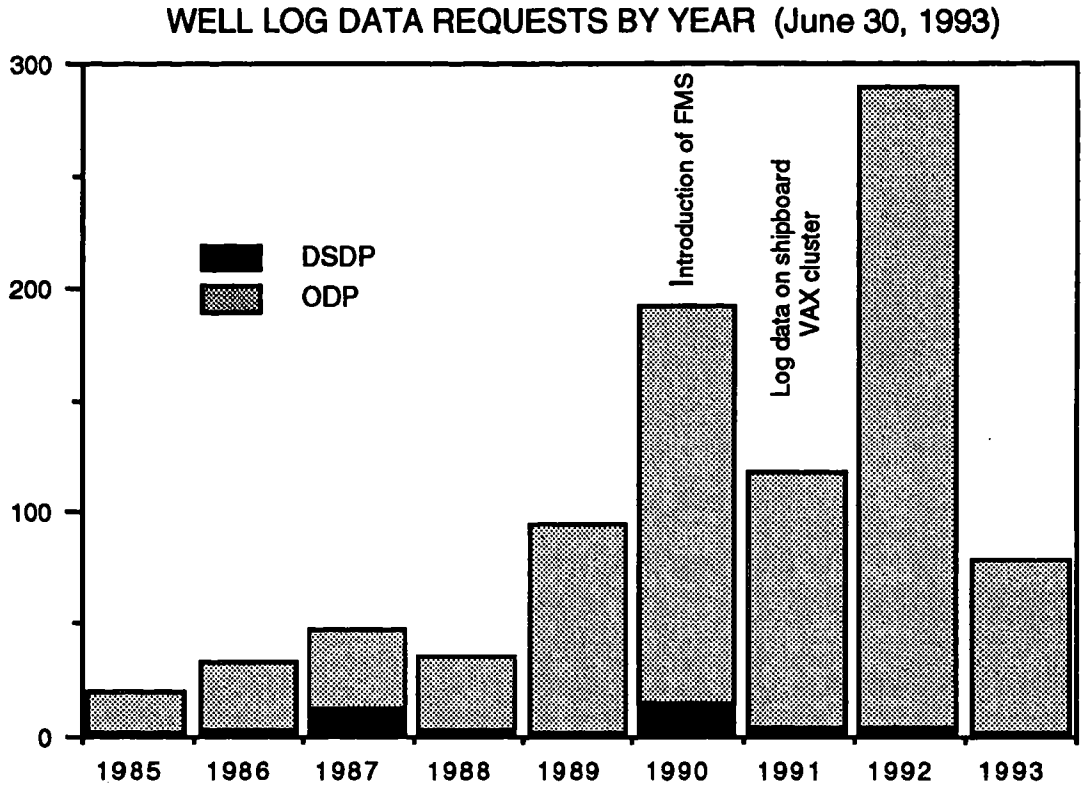
Data Requests and Communications via Electronic Mail

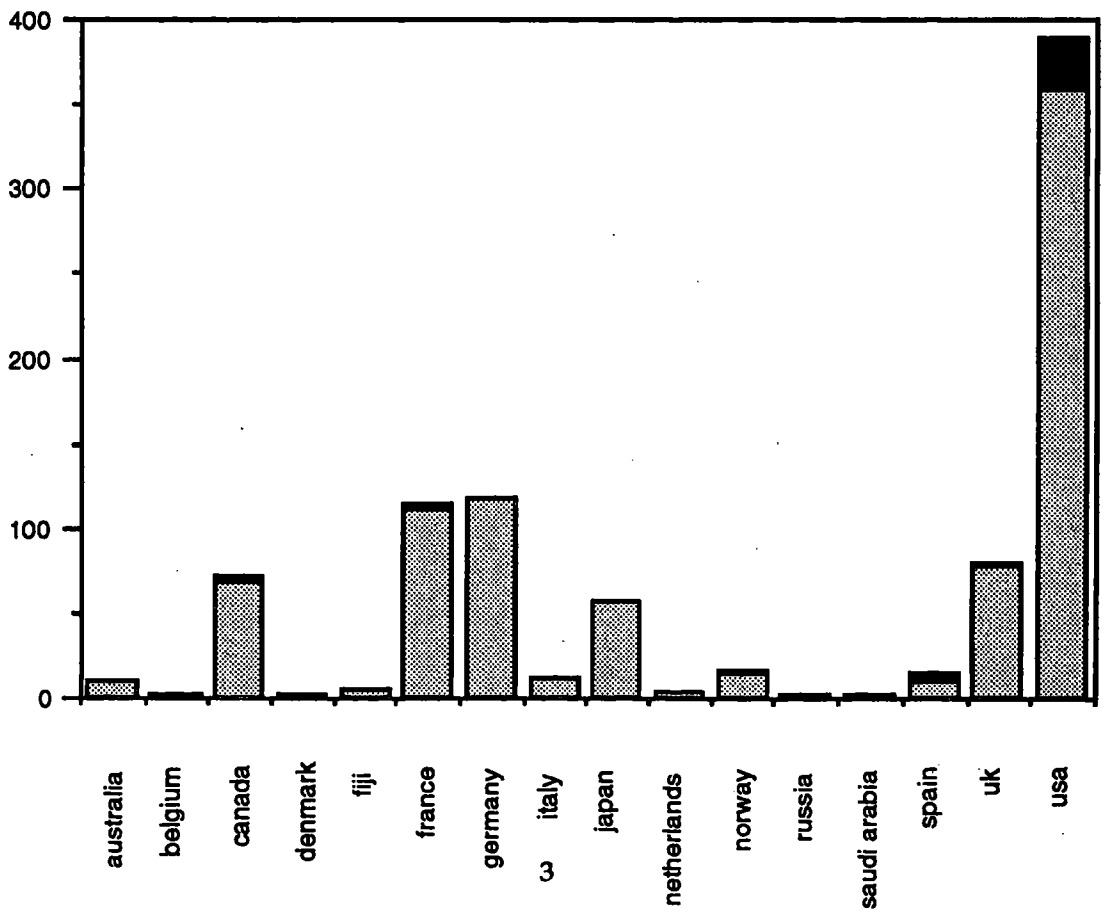
The Borehole Research Group can receive data requests and queries electronically by two paths. The first path is through our mailbox on **OMNET**. The address of this mailbox is "borehole". It is checked every day. The second path is over **InterNet**. Lamont-Doherty has a T3 (check) class connection to the InterNet so data file transfer over the network is a practical option in addition to handling electronic mail. The second path for data transfer is via ftp or anonymous ftp (this has already been done in several instances). The primary contact points for outsiders are the following:

- **borehole@ldeo.columbia.edu** (general purpose account)
- **chris@ldeo.columbia.edu** (Cristina Broglia, Data Services Supervisor, for database and log analysis related questions)
- **barnes@ldeo.columbia.edu** (Deborah Barnes, Database Assistant and CD-ROM Coordinator, for data requests and CD-ROM development/status)
- **beth@ldeo.columbia.edu** (Elizabeth Pratson, Senior Log Analyst, for log analysis related questions)
- **filice@ldeo.columbia.edu** (Frank Filice, Technical Operations Manager, for questions related to Schlumberger services, and specialty and third party tools).

All of the above points of contact, along with an updated version of the ODP Well Log Data Distribution Policy have been recently sent to the JOIDES office for inclusion in the next issue of the JOIDES Journal.

Figure 1


WELL LOG DATA REQUESTS BY YEAR (June 30, 1993)
300
200
100
0
DSDP
ODP
Introduction of FMS
Log data on shipboard VAX cluster
1985
1986
1987
1988
1989
1990
1991
1992
1993


WELL LOG DATA REQUESTS BY COUNTRY (June 30, 1993)
400
300
200
100
0
australia
belgium
canada
denmark
fiji
france
germany
italy
japan
netherlands
norway
russia
saudi arabia
spain
uk
usa

Data Distribution to NGDC

Due to magnetic tape drive unavailability during the recent reorganization of the BRG network, the shipment to NGDC of the data of Legs 139 through 144 will take place by the end of August, in which case it will include leg 145 data as well.

Post-Cruise Distribution of Logging Data

Plots of the standard logging data (partially processed and now depth-shifted with reference to the sea floor to facilitate correlation with cores) are now routinely distributed to each member of the shipboard party about 2 months after the end of the leg, along with forms to request additional data. Distribution of standard log data from Leg 148 took place in June. At the same time, the processed log data became available in ASCII format on floppy disk. Preparation of Leg 149 composite plots is underway.

2. Publication Update

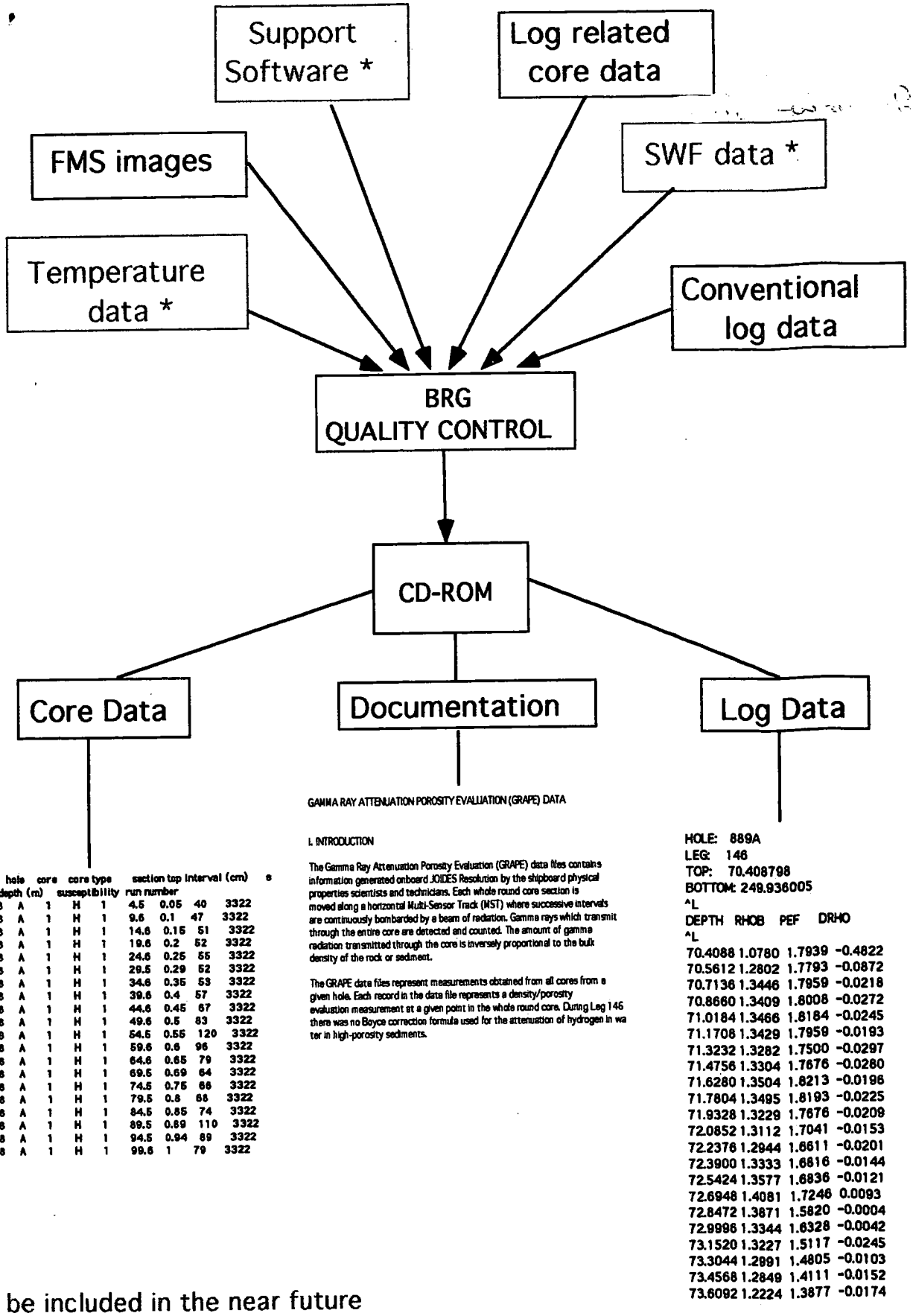
Publications in the ODP Proceedings

Starting with Leg 143, the processed geochemical data have been routinely presented in both analog (plot of well log results versus core measurements in the Site chapter) and digital form (CD-ROM) in the ODP Proceedings Initial Reports along with a short report describing the processing procedure. This provides interested scientists with results that they would be able to use for correlation with other data sets long before the submission of their manuscript to ODP Scientific Results.

A summary of depth-shifted, edited, and partially processed conventional logs (i.e. sonic and gamma ray) is routinely submitted for publication before the barrel sheets in the Initial Reports of the ODP Proceedings. In general, this summary is ready 2-3 weeks after the first post-cruise meeting.

ODP-BRG CD-ROM Production

LDEO started routine CD-ROM production with the creation of a Leg 143 CD-ROM in January of this year. Since that time, Leg 144, 145, and 146 CD-ROMs have been completed while preparation of Leg 147 and 148 CD-ROMs is underway.



* to be included in the near future

Figure 2

The ODP-BRG CD-ROM was originally conceived as a data-only CD ROM (Figure 2) which would contain 1) logging data, 2) log-related core data (i.e. index properties, GRAPE, MST, and magnetic susceptibility data) and 3) public access software to assist scientists in the analysis and interpretation of the data. While objectives 1 and 2 have already been achieved with the production of Leg 145 and 146 CD-ROMs, BRG is now considering expanding the logging data section to routinely include:

- temperature data (ASCII format)
- full sonic waveform data (format to be determined).
- third party tool data (ASCII format).

As the volume of data will considerably grow with the addition of third-party tools and sonic waveforms, more compact data formats (binary) will have to be investigated. A binary format is advantageous in that it takes roughly 1/3 to 1/2 less space on the disc in comparison to an ASCII file and therefore data can be accessed much faster. It seems likely that this will be the best method for storage and retrieval of data on CD-ROM in the future.

At this time, the BRG database group is concentrating on the addition of public access software to the CD-ROM. With programs like NIH Image for the Macintosh environment and Khoros for the UNIX environment (see Appendix 3) BRG is aiming to improve the ease of data extraction and manipulation for our users. With the addition of short macro-like programs written with Khoros's "visual" programming language BRG hopes to provide an easy method by which to: view the FMS raster images, execute sonic waveform analysis with production of synthetic seismograms and integration with seismic data, and perform spectral analysis for the study of paleoclimatic cycles.

With the addition of log-related core data came an increase in preparation time for the CD-ROM. The file structure for each CD-ROM is created using a UNIX environment. The core data is received from TAMU on a Macintosh SyQuest disk and then transferred, directory by directory, to the UNIX platform. Because the data is integrated into a pre-existing file format BRG personnel cannot do a "one button" dump of the data. This file by file process also allows for quality control checks of the different data sets and documentation files. After this integration, a combined index document and table of contents is written THEN an exabyte tape is created and sent to NGDC for the pre mastering step. Once the pre mastered CD-ROM is double checked for omission of data or other errors it is sent out for mastering and duplication. Once the duplicates are received, they are counted and then mailed to the publisher to be included in the IR Volumes.

Appendix 1. Well Log Data Distribution Policy

Data distribution onboard. All of the logging data acquired on each ODP leg are available onboard to each member of the scientific party. A form to request analog-digital data is distributed onboard or mailed to each scientist after the end of the leg.

Currently, digital data is available onboard in two formats: DLIS or ASCII. The latter is available for conventional logs (acoustic, nuclear, geochemical, electrical) which have been preliminary edited by the logging scientist(s) and transferred to the ship'S main Vax cluster for distribution through the network. In addition, processed Formation Microscanner data are made available as soon as possible after preliminary processing in a format (Portable Bit Map) compatible with a number of graphic applications on different computer platforms (Macintosh, SUN, VAX, IBM/PC). Starting with Leg 149 and the installation of MAXIS onboard, digital data will be saved in DLIS format; for those scientists who are not able to read the new format, a conversion program will be available at LDEO-BRG to perform the translation.

Schlumberger contractually supplies 6 copies of blacklines for each logging run. These are distributed to:

co-chief scientist
co-chief scientist
JOIDES staff scientist
LDEO-BRG logging scientist
JOIDES logging scientist
LDEO-BRG permanent archive

Data distribution on-shore. The original logging data is available at the well log data repository about 3 weeks after the end of the cruise. Any data request must be addressed to:

Cristina Broglia or Debbie Barnes
Borehole Research Group
Lamont-Doherty Earth Observatory
Route 9W
Palisades NY 10964
tel.(914)-365-8343/8673
fax: 914-365-3182
e-mail: chris@ldeo.columbia.edu
e-mail: barnes@ldeo.columbia.edu

using the appropriate forms and specifying log type and format.

Schlumberger Data. Schlumberger digital data include conventional (acoustic, nuclear, geochemical, electrical) and Formation MicroScanner logs. The original, unshifted and unprocessed data is available in LIS format only. The processed conventional logs are available in LIS (on magnetic tape) or ASCII format (on magnetic tape or 3.5" diskette). Schlumberger sonic waveforms are available in LIS/DLIS or binary format on magnetic tape.

The processed Formation MicroScanner/Dipmeter data are available in LIS (on DAT tape), ASCII (on 3.5" diskette), and PBM formats (on DAT tape). Conventional logs are also available in analog format on blackline at the metric scale 1:500; Formation Microscanner/Dipmeter data are currently available in analog format on blacklines at two different scales (1:6 and 1:40).

Other Data. Multichannel Sonic data are available in BRG or binary format (on magnetic tape). Analog Borehole Televiewer data are available in analog form only (xerox copies of original Polaroid photographs); Digital Borehole Televiewer data are available on TK50 cartridges. Most temperature data are available as ASCII files of temperature and pressure versus time.

CD-ROM. Starting with Leg 143, the data is available on CD-ROM as well. The ODP-BRG CD-ROM includes:

- FMS image raster files in PBM (Programmable Bit Map) format
- dipmeter data (ASCII format)
- conventional logs (ASCII format)
- BRG tool temperature data (ASCII format)
- text/information files (ASCII format)

Note that all of the above data are available free of charge to members of the scientific community. Any request, however, not conforming to the standards listed in the request form (ex. particular graphic presentation, multiple formats or media for the same dataset, etc.) will be subject to charge.

The scientific community at large has access to the logging data a year after the end of each leg. Interested scientists, however, can obtain the logging data before the 1-year moratorium upon approval of the co-chiefs and the shipboard party; like the rest of the shipboard party these scientists will have the obligation of submitting a scientific or data report for the ODP Scientific Results volume.

Data can be requested at the address indicated above. Scientists who request duplication of a significant number of tapes are required to provide the tapes necessary for the duplication.

Any request of data from commercial firms (ex. oil companies, consulting agencies etc.) should be addressed to the National Geophysical Data Center in Boulder, Colorado, where the unprocessed data are sent after the one-year moratorium.

APPENDIX 2

Total requests up to 6/30/93: 892
Total ODP requsts: 849
Total DSDP requests: 43

USA:	total **389**	ODP **358**	DSDP **31**
Brown University	2	2	
Colgate University	1	1	
California Inst. of Technology	1	1	
California State Univ., Dept. of Geo Science	5	5	
Dept. of Earth and Atmospheric Science	1	1	
Duke Univ., Dept. of Geology	4	4	
Exxon Production Research Company	3	3	
Florida State Univ., Dept. of Geology	2	2	
LDEO	20	15	5
Los Alamos National Labs	1	1	
MIT	23	20	3
Nat. Sci. Found., Marine Geol. & Geophysics	7	7	
NOARL	11	11	
ODP	27	27	
Ohio State University	2	2	
Oregon State Univ., College of Ocean.	10	10	
Private	3	3	
Purdue Univ., Dept. Earth & Atm. Science	10	10	
Rice Univ., Dept. of Geology & Geophysics	4	4	
Schlumberger	3	3	
Scripps Inst. of Oceanography	6	6	
Stanford Univ., Dept. of Geophysics	25	15	10
Texas A & M, College of Geoscience	8	7	1
Texas A & M, Dept. of Oceanography	8	8	
Univ. California at Santa Barbara	1	1	
Univ. of California at Santa Cruz	12	12	
Univ. Hawaii at Manoa, Inst. of Geoph.	31	31	
Univ. Hawaii, Dept. of Oceanography	19	11	8
Univ. Hawaii, SOEST	6	6	
Univ. of Miami	13	12	1
Univ. of Michigan, Dept. of Geology	3	3	
Univ. Nebraska at Lincoln, Dept. Geology	6	6	
Univ. New Orleans, Dept. Geol. & Geoph.	10	10	
Univ. of North Carolina	2	2	
Univ. Rhode Island, Grad. School Ocean.	12	12	
Univ. So. Carolina, Dept. Geo. Sciences	3	3	

Univ. of South Florida, Dept. of Geology	5	5	
Univ. of Texas, Inst. for Geophysics	8	8	
Univ. of Tulsa, Dept. of Geology	4	4	
University of Utah	19	19	
Univ. of Washington, Ocean & Fishery Sc.	1	1	
Univ. of Washington, School of Oceanogr.	4	4	
USGS	27	25	2
WHOI	16	15	1

	Total Foreign requests: 503		
	Total ODP: 491		
	Total DSDP: 12		
Australia:	10	10	
Bureau of Min. Res., Geol. and Geophys.	10	10	
Belgium:	1	1	
Lab. Associes Geol.-Petrologie-Geochron.	1	1	
Canada:	70	68	2
Dalhousie Univ., Centre for Marine Geol.	19	18	1
Geol. Survey of Canada	9	9	
Memorial Univ. of Newfoundland	2	2	
Pacific Geoscience Centre	10	10	
Petro Canada	1		1
School of Earth & Ocean Sciences	5	5	
Thurber Consultants Ltd.	1	1	
Univ. of Calgary, Dept. of Geology	1	1	
Univ. of Toronto	8	8	
Univ. of Waterloo, Dept. Earth Science	14	14	
Denmark:	2	2	
Geological Survey of Denmark	2	2	
Fiji:	5	5	
SOPAC	5	5	

France:	114	111	3
BRGM	2	2	
Ifremer	1	1	
Ins. Physique du Globe. Lab. Geop. Mar.	10	10	
Lab. Geomagn. Un. Paris 6	1	1	
Lab. de Geologi du Quaternaire	25	25	
Lab. de Stratigraphie	1	1	
Mus. Nat. Hist. Naturelle	5	5	
Orstom	16	16	
Total	2	2	
Univ. Nancy 1, Fac. of Science	10	10	
Universite de Montpellier, Lab. Geoch. Isotopique	4	4	
Universite d'Orleans	6	6	
Universite de Provence	3	3	
Universite Pierre et Marie Curie	3	3	
Universite de Rennes	1	1	
Inst. Mediterraneen de Technologies	24	21	3

Germany:	118	117	1
Bergakademie, Institute für Geologie	5	5	
Bundesanstalt Geowissenschaften und Rohstoffe	14	14	
DMT	2	2	
Univ. Fredericiana, Geophysikalisches Institut	38	37	1
Geomar	12	12	
Institut für Geowisswnschaften, Giessen	5	5	
Institut für Mineralogie, Bochum	7	7	
Inst. of Petrol. and Org. Geochem., Juelich	1	1	
Lehr-und Forschung. für Angewandte Geophysik, Aachen	11	11	
Universitat Bremen	5	5	
Univ. Kiel, Geologiskes Institut	7	7	
Univ. München, Institut Allgemeine und Angewandte Geoph.	1	1	
Univ. München,Institut für Geophysik	3	3	
Universitat Tubingen	3	3	
Wegener Inst. for Polar and Marine Res.	4	4	

Italy:	12	12	
Ist. Geol. Mar. CNR	6	6	
Univ. Calabria, Dip. Scienze della Terra	2	2	
Univ. of Napoli, Dip. Scienze della Terra	3	3	
Univ, of Padova, Dip. Geologia	1	1	

Japan:	56	56	
Chiba Univ. Dept. Earth Science	7	7	

Geological Survey of Japan	9	9	
Kyoto Univ., Dept. of Geology	3	3	
Meterological Research Institute	4	4	
Tohoku Univ. Geol. Dept.	2	2	
Tokai Univ., Dept. of Science & Technology	3	3	
Univ. of Tokyo, Earthquake Res. Inst.	2	2	
Univ. of Tokyo, Geology Institute	10	10	
Univ. of Tokyo, Geophysics Inst.	5	5	
Univ. of Tokyo, Ocean Res. Inst	11	11	
Netherlands	4	4	
Free University, Dept. of Earth Sciences	4	4	
Norway:	16	15	1
Univ. of Trondheim, Inst. of App. Geophy	5	5	
Univ. Oslo, Inst. for Geologi	2	1	1
Geological Survey of Norway	4	4	
STATOIL	5	5	
Russia	2	2	
VNIIOkeangeologia	2	2	
Saudi Arabia	1	1	
King Saud University	1	1	
Spain:	14	10	4
Hispanoil-Eniepsa	5	5	
Institute of Earth Sciences, CSIC	9	5	4
UK:	78	77	1
BP Research Center	1	1	
British Geological Survey	10	10	
BRITOIL PLC	2	2	
Edimburgh University	4	4	
Inst. of Oceanographic Sciences	7	7	
Open Univ., Dept. of Earth Science	4	4	
Univ. of Birmingham, School of Earth Sciences	5	5	
Univ. of Cambridge, Dept. of Earth Science	1	1	
Univ. of Durham	1	1	
Univ. of Leicester, Dept. of Geology	14	13	1

Univ. of Nottingham, Dept. of Geology	8	8
Univ. of Nottingham, Dept. of MRE	1	1
Univ. of Southampton	14	14
Univ. of Wales, C.C., Dept. of Geology	6	6

Appendix 3. What is the Khoros system?

Khoros is an integrated software development environment for information processing and visualization, based on X11R4. Khoros components include a visual programming language, code generators for extending the visual language and adding new application image display package, an extensive library of image processing, numerical analysis and signal processing routines, and 2D/3D plotting packages.

X Windows Applications

- Animate - Interactive Image Sequence Display Tool
- Cantata - Extensible Visual Programming Language
- Concert - A system for distributed X user interfaces (groupware)
- Editimage - Interactive Image Display & Manipulation Program
- Xprism2 and Xprism3 - Comprehensive 2D and 3D Plotting Packages
- Viewimage - A basic interactive program for surface rendering
- Warpimage - An interactive program for registering and warping images

Data Processing Algorithms

Khoros contains over 260 programs, in the following categories: arithmetic, classification, color conversion, data conversion, file format conversion, feature extraction, frequency filtering, matrix algebra (LINPACK and EISPACK), spatial filtering, morphology filtering, geometric manipulation, histogram manipulation, statistics, signal generation, linear operations, segmentation, spectral estimation, sub-region, and transforms. Khoros supports the following file formats: TIFF, pbm, BIG, DEM, DLG, ELAS, FITS, MATLAB, Sun raster, TGA, and xbm.

User Interface Tools

- Preview - Graphical User Interface Display Tool
- Composer - Interactive Graphical User Interface Editor
- Conductor - Code Generation Tool for a Graphical User Interface
- Ghostwriter - Code Generation Tool for a Command Line User Interface
- Source Configuration & Management - Tools to install and maintain a distributed source tree.

Appendix F

Micropaleontological Reference Collections:
Curation and Database Management Workshop.
Natural History Museum, Basel (NHMB), Switzerland. 7th-9th June, 1993

Attendees: P.Baumgartner (University of Lausanne); R.Hodgkinson (Natural History Museum,UK); B.Huber (Smithsonian Institution); R.Lotti (LDGO); D.Lazarus (ETH-Zentrum Zurich); R.Merrill (TAMU/ODP); E.Muller-Merz (NHMB), A, Sanfilippo (Scripps Institution); J.B.Saunders (NHMB); A.Schaaf (Universitat Louis Pasteur, Strasbourg); W.Smith (Scripps Institution); D.Spiegler (GEOMAR); Y.Tanimura (National Sciences Museum, Tokyo); H.Thierstein (ETH-Zentrum, Zurich); B.Tocher (University of Wales).

Recommendation to IHP

(1) IHP consider the possibility that certain fossil groups should be sent by an MRC to another institution on carefully controlled sub-loan where that institution has a demonstrated expertise and interest in that particular fossil group. (The intention here is to make the best use of the eight micropaleo sample sets. Experience has shown that a collection needs to be linked to an instition - in fact, to one or more people - who will be a natural focus for visiting scientists)

(2) IHP consider the formalisation of the Paleontological sub-committee to undertake some of the roles once covered by the Stratigraphic Correlations Panel. These to include: (a) the oversight of shipboard paleontological staffing with the eventual designation of a Lead Stratigrapher for a leg. (b) the collection of data to document the stratigraphic coverage available from DSDP/IPOD/ODP to date. The intention is to locate poorly represented intervals and regions.

Other Recommendations

(1) The individual MRCs are urged to coordinate development of computerized databases recording micropaleo holdings at each center, to facilitate free exchange of data and information.

(2) The workshop agrees that problems involving the supply and control of micropaleo reference collection for use on the JOIDES Resolution are very great and such collections are generally impractical.

(3) The workshop wishes to encourage the capturing of digital images of important taxa. Libraries of such images are a major practical tool to help advance micropaleo, and will become a commonplace working medium in the future. A small working group should co-ordinate this effort and help define a set of appropriate standards.

(4) An in-depth public-relations document illustrating the concept and realities of the MRCs should be prepared before the end of the year by a small group drawn from the workshop membership.